THE Soybean Digest

The Peoria Conference on Soybean Products for **Protein** in Human Foods

PEORIA CONFERENCE. Photos from top to bottom, read from left to right: The Soybean Council's J. W. Hayward and Max Milner, United Nations children's fund. Both played leading role in setting up conference.

K. H. Steinkraus, Cornell University, and J. E. Hubbard, Northern Utilization Laboratory.

Serving fried tofu at reception.

F. R. Senti, who presided at the conference, and J. C. Cowan, both of Northern Utilization Laboratory.

OPEN PACIFIC GRAIN AT FARMER CITY, ILL.

SOYBEANS IN ALABAMA

OCTOBER • 1961

VOLUME 21 • NUMBER 12

Engineers Who Know Say . . .

ANDERSON ROTARY STEAM TUBE DRYERS

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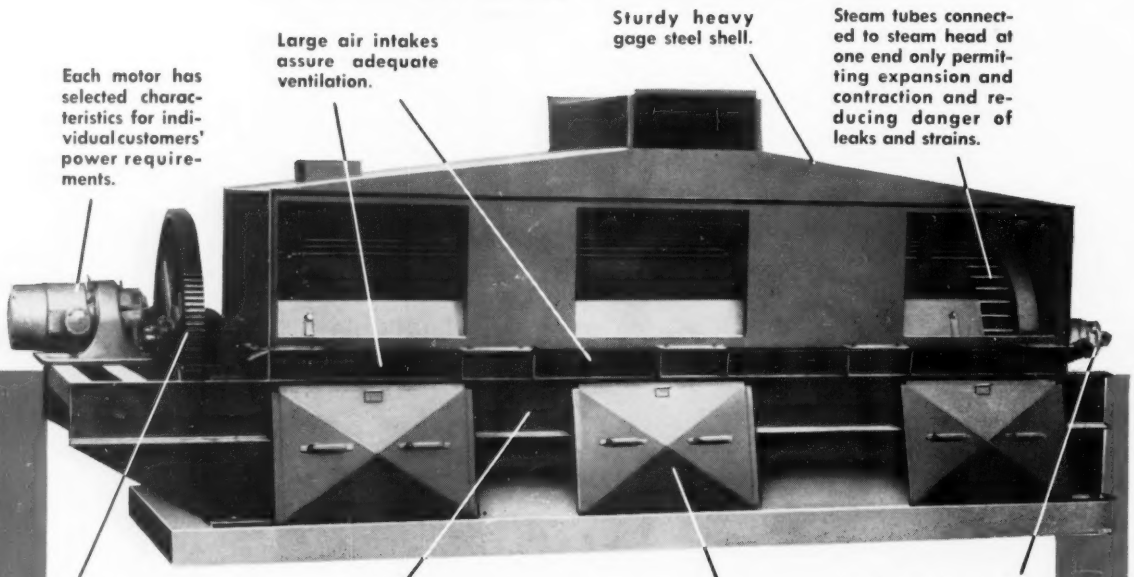

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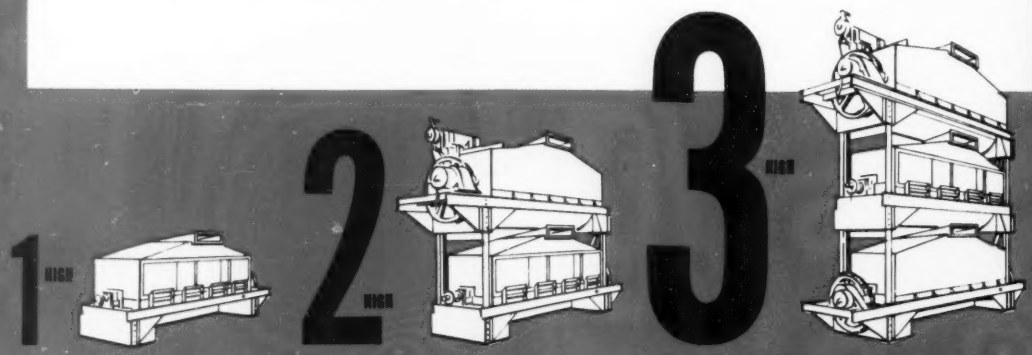

ARRANGEMENTS – Anderson Dryers can be stacked two or three high, as well as used in single units.

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THE Soybean Digest

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Vol. 21 **October, 1961** **No. 12**

IN THIS ISSUE

THE SOYBEAN DIGEST

EDITOR ..... *Geo. M. Strayer*

MANAGING EDITOR ..... *Kent Pellett*

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Objectives of the American Soybean Association include the bringing together of all persons interested in the production, distribution and utilization of soybeans; the collection and dissemination of the best available information relating to both the practical and scientific phases of the problems of increased yields coupled with lessened costs; the safeguarding of production against diseases and insect pests; the promotion of the development of new varieties; the encouragement of the interest of federal and state governments and experiment stations; and the rendering of all possible services to the members of the Association.

EDITOR'S DESK

. . . By GEO. M. STRAYER

MILESTONE FOR SOYBEAN INDUSTRY The recent conference at the Regional Laboratory at Peoria, where attention was focused on the use of soy protein in human feeding, marks a milestone in our industry. Never before have men from industry, the trade organizations, government and the international organizations sat down together for a series of days to consider where we are, what we need to know, what we do not know, and where we go from here on usage of soy protein for human food.

Very naturally those of us who can afford beefsteak and pork chops and poultry and dairy products are going to continue to consume them, and in so doing utilize our share of the soy protein in producing those livestock products. Likewise we will continue to encourage other peoples to increase consumption of those products as rapidly as they can afford to do so. But there are millions of people in the world who can neither afford nor obtain animal products in quantities sufficient to supply their protein needs. They must rely on vegetable proteins. When they do so soy protein is the most logical source of the proper balance of amino acids.

To Dr. Fred Senti of the Northern Regional Laboratory, Dr. J. W. Hayward of the Soybean Council staff, and Dr. Max Milner of the United Nations Children's Fund we hereby award the Golden Soybean Cluster for their insight, patience, foresight and ingenuity in planning and executing this program.

GOVERNMENT ACTION IS NEEDED NOW Anything which is to be done by government to affect usage of 1961-crop soybeans and therefore the price for them should be done now—while such actions will be reflected in the price paid to the farmer for his soybean crop.

Secretary Freeman is to be commended for announcing CCC sales policies on soybeans well ahead of the harvest season. Everyone now knows just what the sales prices on CCC stocks of soybeans after May 31, 1962, will be. This is excellent.

He is also to be commended for announcing the intended purchase of 400 million pounds of vegetable oils and oil products for overseas feeding programs at a time when the effects will be felt in the market. But this purchase will take the oil from less than 30 million bushels more of soybeans than from last year's crop (when 100 million pounds were purchased) and does not solve the problems of a 160-million-bushel crop increase.

How much oil will be programmed under Public Law 480? When will the 400 million pounds be purchased? What is the intent of government on 1962-crop soybeans? Will there be Food for Peace programming of soy protein for overseas consumption? These and many other questions need to be answered by government at the earliest possible date, so the answers are reflected in prices paid to farmers.

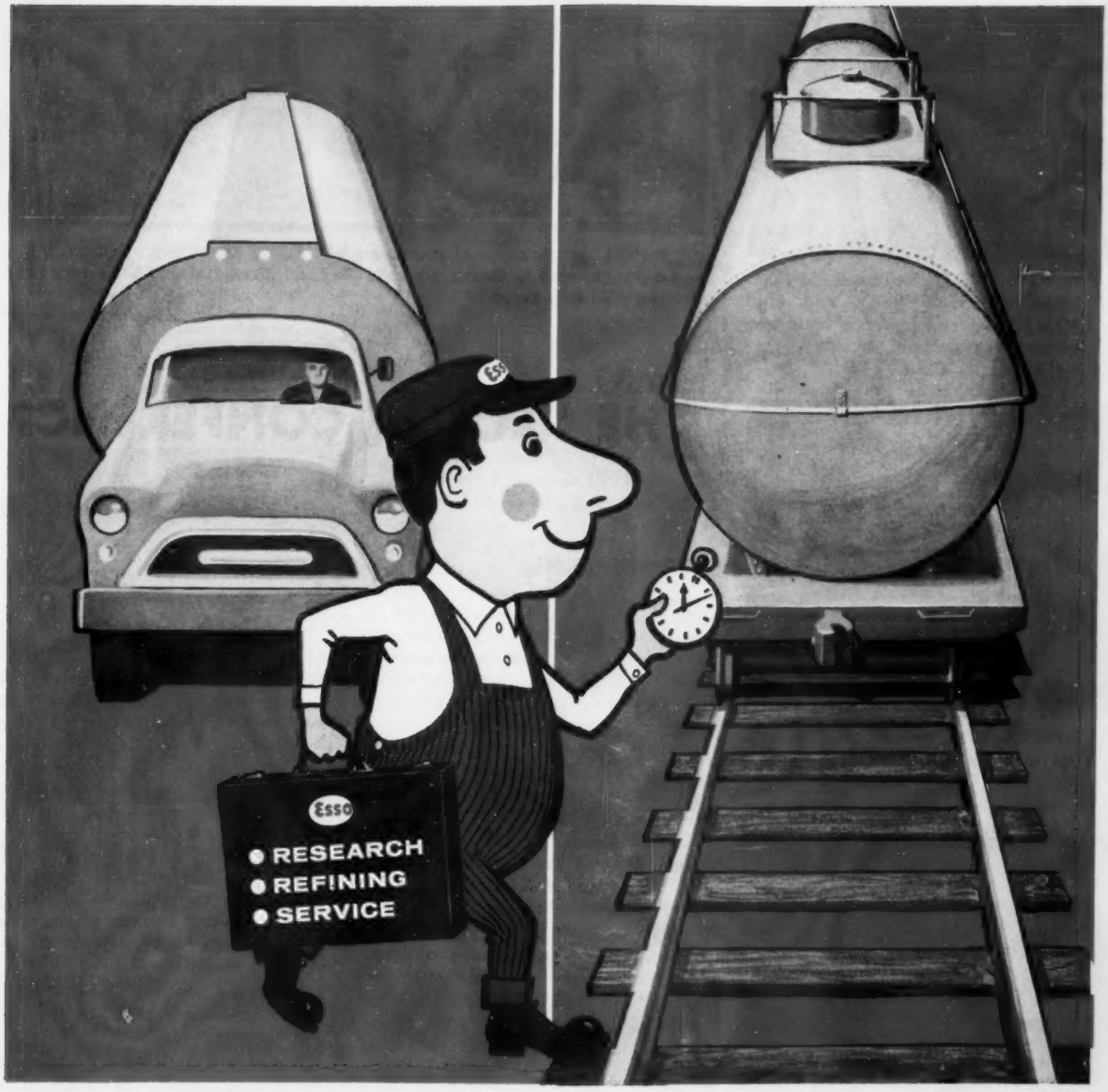
TROJAN HORSE TACTICS Healthy differences of opinion when properly presented through the normal channels of democratic action are good for any organization. The American Soybean Association is no exception. Certainly not all members agree on the proper level of support price, on sales policies, on disposal programs. That is as it should be. Those subjects when properly debated within the organization should result in compromise programs acceptable to all reasonable men.

But, when a group of men who have never before been members of the organization, who have never before attended a meeting, who have never been sufficiently interested to pay $3 per year to find out what was going on, suddenly barge into a meeting, under the organized leadership and direction of one man who also has never before had any contact with the organization in any way, it is time to become alarmed.

The American Soybean Association welcomes membership from soybean producers. It attempts to represent their interests. It can best do so when its members express their beliefs. When channeled through democratic processes the organization becomes more valuable and helpful. A "Trojan Horse," as the Indianapolis episode was called by Judge John F. Linder, has no place in the America of 1961. Thinking men have means of making their views known in this or any other organization.

Let's hope we learned by our Indianapolis experiences!!

BETTER USE RECLEANER ON COMBINE Volunteer corn in soybeans is a tremendous problem this year in many areas. Corn in soybeans is a foreign material just as are cockleburs or morning glory seed. The farmer who does not remove the corn before harvesting his soybeans should be penalized. Once the crop is harvested it is impossible to remove all the corn by recleaning. Recleaners on combines will not remove it. Corn does not make good soybean oil, nor soybean meal—nor does it make good miso or tofu. Buyers can materially assist in cleaning up soybean fields by offering premiums for clean soybeans—free of corn.



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A. D. WALKER, Skillers Ltd., Cambridge, England (left), and Paul Melnychyn, fruit and vegetable laboratory, Agricultural Research Service, Pasadena, Calif.

PANEL on problems of increasing worldwide use of soy products, left to right: Howard L. Roach, Shizuka Hayashi, Fred Hafner, A. G. van Veen, and Allan K. Smith.

—Photos by Kent Pellett

DISCUSSION by W. H. Sebrell, David B. Hand and D. W. Anderson, Jr.

BREAD SAMPLES with varying percentages of soy flour are discussed by L. H. Bean of Food for Peace and Gleason M. Diser, Archer-Daniels-Midland Co., who prepared them.

THE PEORIA CONFERENCE

On Soybean Products for Protein in Human Foods

CAN THE SOYBEAN and American know-how help feed a hungry child on the other side of the world?

This was the basic question that leading scientists of government, industry and leading universities considered at the working conference on "Soybean Products for Protein in Human Foods," which was held Sept. 13-15 at the U. S. Department of Agriculture's Northern Utilization Laboratory in Peoria, Ill.

Paul Gyorgy, M. D., Philadelphia General Hospital, termed protein malnutrition the "No. 1 malnutrition problem in the world, particularly in developing countries. In some countries infants who cannot get milk from their mothers' breasts have to die."

And Dr. F. R. Senti, director of the Laboratory, said in opening the conference: "It is timely to consider how this important source (soybean) of edible oil and protein can contribute to the world's growing need for a high-quality, low-cost protein."

The United Nation's Children's Fund and the Soybean Council of America, Inc., joined with USDA's Agricultural Research Service and Foreign Agricultural Service to sponsor the conference.

Objectives of the conference were to review the need for low-cost, high-quality protein in developing countries; review research and other activities that may increase the use of soybeans and soybean products in developing countries; and discuss research and technological assistance needed to adapt soybean products for eating habits and customs in developing countries.

Following are the various topics of the conference, with the speakers and their subjects:

Nutritional deficiency problems in developing areas of the world, W. J. Darby, M. D., head, department of biochemistry and nutrition, Vanderbilt University, presiding.

"World Aspects of Protein Malnutrition," W. Henry Sebrell, Jr., M. D., director, institute of nutrition sciences, Columbia University.

"Implementation of the WHO/FAO/-UNICEF Protein-Rich Foods Program," D. R. Sabin, coordinator, food conservation division, UNICEF.

"Food for Peace, Plans and Objectives," Nelson J. Post, assistant to the director, Food for Peace.

World marketing of soybeans and soybean products, R. G. Houghlin, president, National Soybean Processors Association, presiding.

"Market Development on U. S. Soybeans and Soybean Products," Geo. M. Strayer, executive vice president and secretary-treasurer, American Soybean Association.

"Activities of Foreign Agricultural Service in Developing Markets for U. S. Soybeans and Soybean Products," Volorus H. Hougen, chief, foreign marketing

SOY MILK panel, l to r: Paul Gyorgy, S. J. Fomon, David W. Anderson, H. W. Miller, David B. Hand, and H. P. Sarett.

branch, fats and oils division, Foreign Agricultural Service, USDA.

Research and development on soybean foods, Dr. J. C. Cowan, chief, oilseed crops laboratory, Northern Utilization Laboratory, presiding.

"Present and Potential Uses of Soybean Flour, Grits, and Protein Concentrates in Foods," Wilbert E. Huge, vice president, Central Soya.

"Soy Flour and Soy Grits as Protein Supplements for Cereal Products," Gleason M. Diser, nutritionist, Soybean Research Council.

"Research at Northern Regional Research Laboratory on Fermented Foods," Dr. Clifford W. Hesseltine, head, ARS culture collection investigations, fermentation laboratory, Northern Utilization Laboratory.

"Pilot Plant Studies on Tempeh," K. H. Steinkraus, associate professor, department of food science and technology, Cornell University.

"Foreign Research Program of USDA on Soybean Protein Products Under Public Law 480," Dr. G. E. Hilbert, director, foreign research and technical programs division, Agricultural Research Service, USDA.

Nutritional and biological studies, W. Henry Sebrell, Jr., Columbia University, presiding.

"Theories on Improving the Nutritive Value of Soybean Meal," Dr. Allan K. Smith, head, meal products investigations, oilseed crops laboratory, Northern Utilization Laboratory.

"Protein Efficiency Studies on Soybean Meal and Its Fractions," Dr. J. J. Rackis, principal chemist, meal products investigations, oilseed crops laboratory, Northern Utilization Laboratory.

"Physiological Effects of Feeding Soybean Meal and Its Fractions," Dr. A. N. Booth, head, biochemistry investigations, pharmacology laboratory, Western Utilization Laboratory, Albany, Calif.

"Nutritional Studies Relating to Development of Soy-Containing Foods," Dr. H. P. Sarett, director, nutritional research, Mead, Johnson & Co.

"Advances in Research on the Nutritional Value of Soybean Meal in Animal Feeds," Dr. James McGinnis, chairman,

(Continued on page 8)

Quotes from the Conference

QUESTION from audience is answered by W. H. Sebrell. W. J. Darby of Vanderbilt University is presiding.

W. Henry Sebrell, Jr., director, institute of nutrition sciences, Columbia University: We must use animal proteins to the greatest extent possible but animal proteins cannot supply all the protein needed for some time to come. It is well known that an adequate protein supply can be obtained from vegetable proteins. Oilseed presscakes now largely used as an animal feed or fertilizer are a large potential source.

D. R. Sabin, coordinator, food conservation division, UNICEF: The average per capita income of people in many countries is only $100 per year. We have to relate proteins to staple foods in those countries or people will not buy them.

D. R. Sabin

Geo. M. Strayer, executive vice president, American Soybean Association: We now have in the soybean industry the nucleus of what we hope will prove to be the most active commodity promotional group in American agriculture. Some 75 people are now working full time to merchandise the products of U. S. soybeans. I want to make it very clear that the people employed by the American Soybean Association and the Soybean Council of America do not carry order books. They sell ideas.

Geo. M. Strayer

Mr. Strayer said he expected to see the production of a billion-bushel crop of soybeans sometime in the next decade. But Louis H. Bean of the Food for Peace office at the White House, said a billion-bushel crop will come by 1965.

W. E. Huge, vice president, Central Soya: Many of us feel that the soybean will fill the same role in livestock feeding abroad that it has in the United States, and also a great role in human nutrition.

W. E. Huge

Harry W. Miller, International Nutrition Research Foundation: Soybeans offer the universal protective factor in the diet. Animal milk is of limited availability. Soybeans can make a low cost soy milk available to all people.

ADDRESS by H. W. Miller. At right, Paul Gyorgy, Philadelphia General Hospital, presiding.

David W. Anderson, Jr., director of research, pharmaceutical division, Borden Co.: Soy milks have gained widespread use in this country for infants allergic to cows' milk. Under experimental conditions with three generations of rats soy milk was entirely adequate in fats as well as proteins. The methionine deficiency in soy milk is not critical if the protein level of the diet is high enough.

A. K. Smith, head, meal products investigations, oilseed crops laboratory, Northern Utilization Laboratory: Most people do not readily eat strange foods even though they are suffering from malnutrition. When corn meal and soy flour were shipped into Japan shortly after the war the Japanese put those products into storage since they did not know how to use them.

A. K. Smith

GROUP samples miso at reception, l to r: F. R. Senti, R. Sabin, J. W. Hayward and A. K. Smith. Miso, tempeh and tofu served at the reception were made at the Northern Utilization Laboratory.

(Continued from page 7)

department of poultry science, Washington State University.

"Application of FAO Pattern in Appraisal of Protein Value," Dr. Helen G. Oldham, nutrition specialist, human nutrition research division, Agricultural Research Service, USDA.

Processing and feeding value of fluid and dry soy milks, Paul Gyorgy, M.D., chairman, WHO/FAO/UNICEF advisory group, presiding.

"Traditional Methods of Processing and Use," Harry W. Miller, M. D., International Nutrition Research Foundation.

"Pilot Plant Studies on Soy Milk Processing," Dr. David B. Hand, head, department of food science and technology, New York State Agricultural Experiment Station.

"Prolems in Formulation," Dr. David W. Anderson Jr., director of research, pharmaceutical division, Borden Co.

"Soybean Protein in Infants Feeding," S. J. Fomon, M. D., associate professor of pediatrics, University of Iowa medical school.

"Feeding Value for Premature Infants," Paul Gyorgy, M. D., Philadelphia General Hospital.

Problems involved in increasing worldwide use of soybean products as foods. Panel discussion, Dr. J. W. Hayward, director of nutrition, Soybean Council of America, moderator.

Panel members: F. H. Hafner, director of protein operations, General Mills, Inc.; Shizuka Hayashi, managing director, Japanese American Soybean Institute; H. L. Roach, president, Soybean Council of America; Dr. A. G. Van Veen, chief, food science and technology, FAO; and Dr. Allan K. Smith, Northern Utilization Laboratory.

A full report on the conference including all speeches will be published. For a copy as soon as available, write F. R. Senti, director, Northern Regional Research Laboratory, Peoria 5, Ill.

Export "Filled Milk"?

A PROGRAM to provide food for millions of the world's undernourished people while substantially increasing U. S. soybean oil exports was outlined at Los Angeles by a prominent vegetable oil scientist.

Dr. A. Richard Baldwin, research director of Cargill, Inc., Minneapolis, described overseas distribution of "filled" milk—a blend of milk powder, water, soybean oil, vitamins and synthetic butter flavor—as a possible new outlet for U. S. produced foods.

The suggestion was contained in a speech before the Los Angeles section of the American Oil Chemists' Society. Baldwin is national AOCS president.

"Two billion people in the world go to bed hungry every night," Baldwin said.

"Assume we were able to provide one 8-ounce glass of 'filled' milk for only 1% of this group. In 1 year these 20 million people would consume 58.4 billion ounces of product, providing a market that doesn't exist today for nearly 128 million pounds of soybean oil," he said.

MPF Is Offered Dairy Distribution

A SURGE in consumer interest resulting from increasing political tensions has prompted General Mills to make available its emergency food, MPF (Multi-Purpose Food), to American dairies for route distribution to homes wishing to stock home shelter areas.

Civil Defense authorities have recommended that everyone have a 2-week food supply in his home shelter area—and a 3-day survival kit in his automobile in case evacuation is necessary.

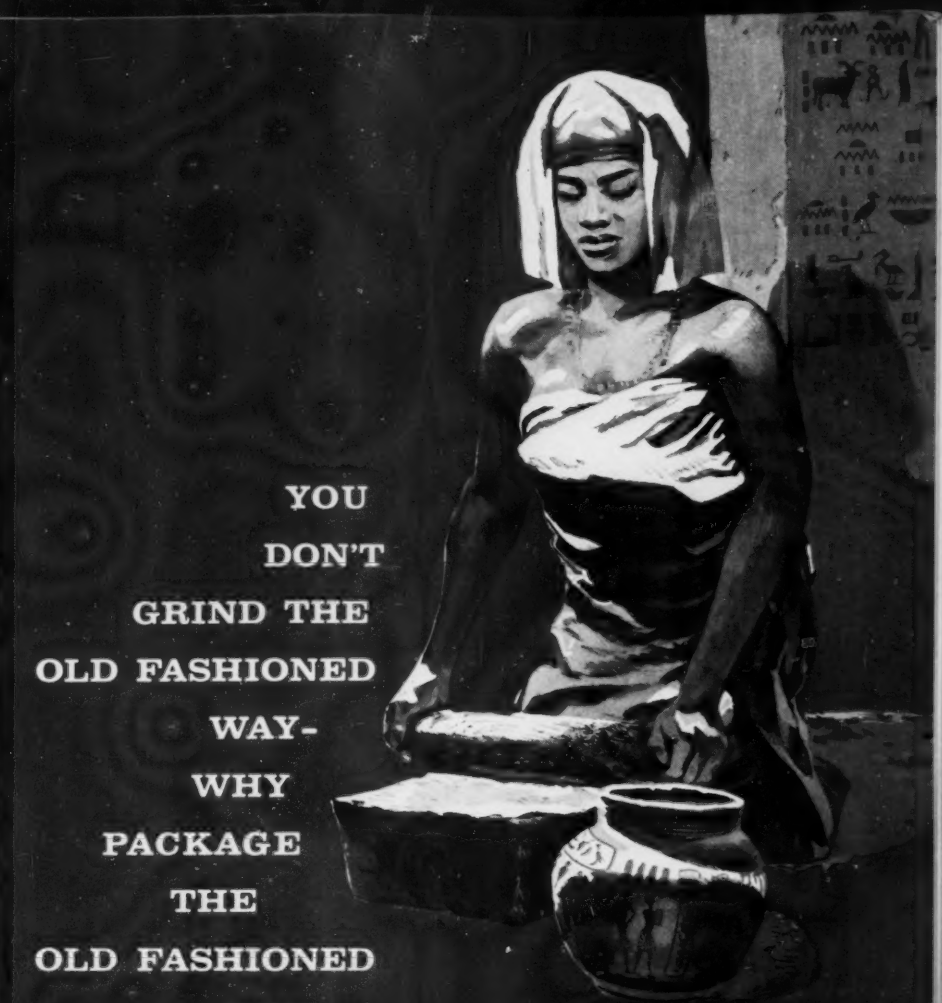
New Crown Multiwall Bags Revolutionize Packaging of Soy Bean, Cottonseed and Other Meal

The grinding of grain into meal and the search for ways to store it is almost as old as man himself—for upon the safe storage of grains from one harvest to the next, man's very existence depends.

Today, a quiet revolution in meal packaging techniques is taking place. No longer are the old methods adequate. Mills are discovering that the most economical way to package meal is also the safest and most effective way—in multiwall bags.

The column at left describes just how superior these newly developed bags are in keeping out dirt and dust, in repelling moisture, mold, insect, rodents—and in reducing packaging costs.

If your present package is a holdover from a former era, we urge you to switch to multiwall bags. Investigate now. Call your supplier or write to Crown Zellerbach, One Bush Street, San Francisco, California. Do it today.



YOU DON'T GRIND THE OLD FASHIONED WAY- WHY PACKAGE THE OLD FASHIONED WAY?

CROWN ZELLERBACH

Multiwall Bag Sales Division

Field Adjustments Can Reduce Soybean Harvesting Losses

TOTAL EFFICIENCY is what you are after in combining.

By J. J. FEIGHT
Information Service, Iowa State University

MOST FARMERS will accept a 5% to 8% loss in harvesting soybeans, but by observing and making corrections in settings they can reduce excessive harvesting losses, says Agronomist C. R. Weber of Iowa State University. And at today's bean prices farmers can well afford to take a little extra time and effort to save an added 10% or more of their crop.

Soybean harvesting losses are common at about five different points in the combining process. Check and correct these and you'll do a great deal toward correcting your soybean harvesting, Dr. Weber advises. He lists these five common causes of soybean losses:

1—**Shatter losses**—usually a result of failure to harvest when beans are mature. Usually soybeans are in their best condition for combining after the first good frost. For a rough test in the field of the correct moisture percentage for harvesting, soybean pods should be dry enough to split open when squeezed between the thumb and the forefinger, Weber advises. Beans can be harvested at 14% to 15% moisture, but should be 13.5% or lower to store safely.

2—**Cutterbar losses** — by far the greatest of all losses. You can reduce these losses by setting the cutterbar closer to the soil. Less ridging during cultivation will allow you to set the cutterbar low enough to get the low-set pods and still not run the cutterbar into the dirt. Frequent use of a rotary hoe, spiked-toothed harrow or weeder — when the beans are small—followed by one cultivation will usually keep your land level, weed-free and reduce cutterbar losses. Every three or four beans left in the field per square foot of land is a loss of 1 bushel per acre, Weber points out.

3—**Cylinder losses** — reduce these by proper speed of cylinder, proper clearance between cylinder and concave bars and proper number of bars in cylinder and concaves, Weber says. Check the straw as it comes out of the machine. If the beans are all removed from the pods, but cracked beans are coming over, then the threshing effect in the cylinder is probably too great. When the beans are hard to thresh out, you may have to compromise between a reasonable amount of cracked beans and a reasonable percentage of the crop saved.

4 — **Separating losses** — improper rack and sieve adjustments usually cause these losses, says Weber. Rack losses occur when beans ride over with the straw and fall out the rear of the combine. This happens when the rack is operated too slowly or when the rack gets overcrowded with straw or weeds.

5—**Cleaning losses**—sieve losses result from a combination of sieve adjustment and wind blast. Overthreshing at the cylinder may cause this, too. When the straw is threshed too hard, it breaks up into smaller pieces, creating extra chaff. This overloads the chaffer and the cleaning sieve.

What is the proper setting? If the sieve openings are not large enough, beans will ride over the sieve and go back through the cylinder again. This increases the chance of cylinder damage, Dr. Weber points out. But if the sieves are opened too much, dirt and other material will fall through with the beans and the job of cleaning becomes difficult. As a practical rule, Weber advises setting the machine so just a few of the threshed beans will pass over the sieve and return with the tailings back into the cylinder.

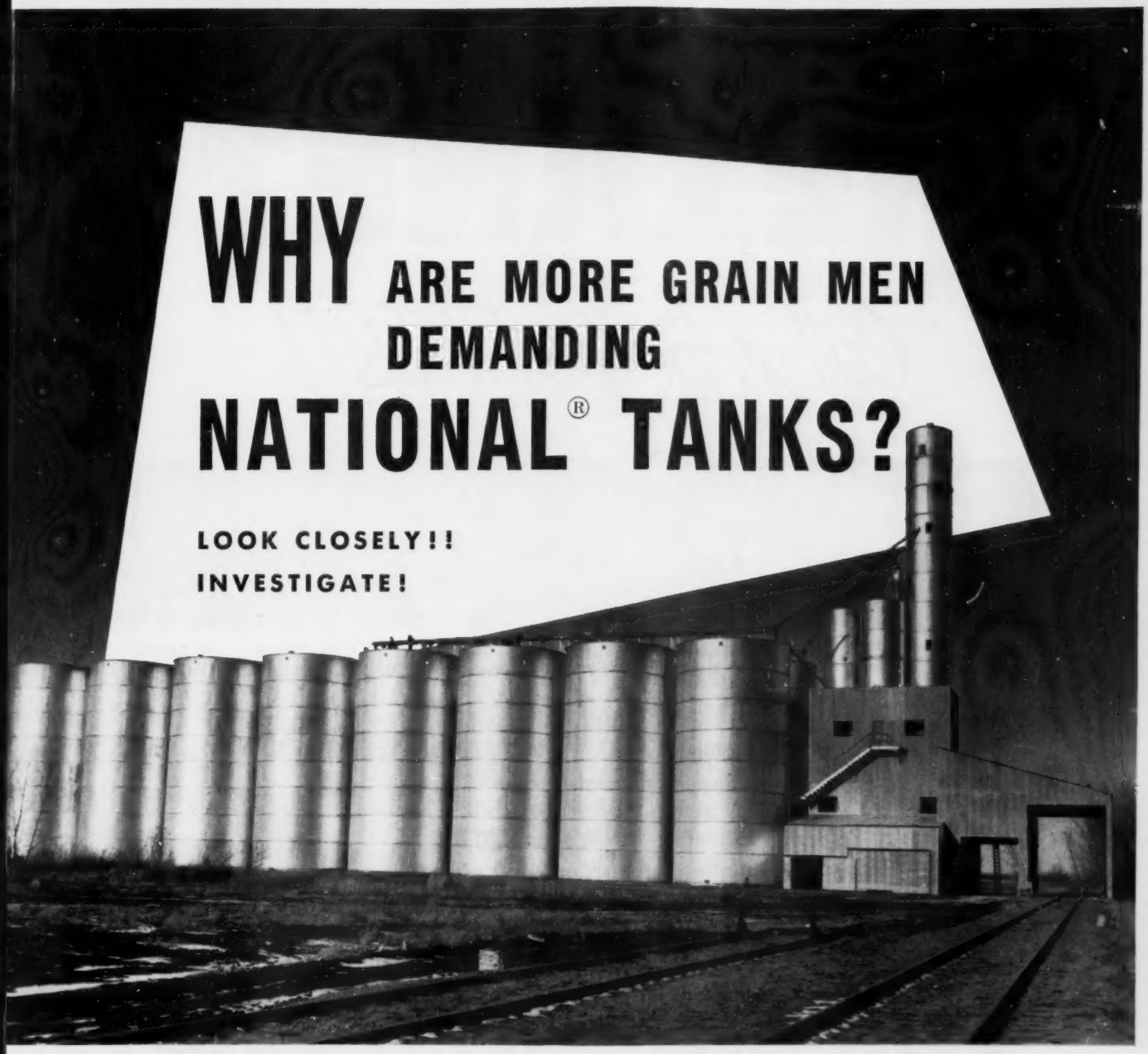
Getting the right wind blast for cleaning also is largely a trial and error adjustment. Too much wind will blow the grain over; not enough will leave dirt in the grain.

Don't be too concerned by a few beans lost behind the machine, Weber advises—it's total efficiency you're after. Instruction manuals with every combine give approximate settings to use for different crops. *But remember, final adjustments must be a compromise made in the field and depend on the crop and weather conditions.*

Soybeans Potential Cash Crop in S. C. Piedmont

EXPERIMENTAL results and the experience of some farmers indicate that soybeans deserve consideration as a potential cash crop in the Piedmont area of South Carolina. The crop does not require a special capital investment. Storage costs per bushel are the same as for other crops.

May plantings of soybeans in the Piedmont area have produced significantly larger yields than when planted in June or July.



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THE NEWS IN BRIEF

THE CROP, MARKETS AND OTHER ITEMS OF NOTE

Harvest Somewhat Delayed

There was a certain amount of combining in most leading soybean states by the end of September, but **really substantial harvest was slow getting under way,** especially in the western states, due to continued adverse harvesting weather. But the beans were maturing, and it appeared that a few days of drying weather would result in a heavy movement.

There were some early reports that yields were not quite up to the bumper crop expected, particularly in Illinois and Indiana. This was true of Champaign and Iroquois counties, Ill., where drought hurt. But it was being said that lower-yielding earlier varieties, also drought-damaged beans, are the first harvested, and tremendous yields were still expected.

Quality of the early-harvested crop appeared to be good, with low moisture and f. m. content, although heavy weed infestations were reported some places, and Illinois crop reporting service stated lodging was causing moderate combining losses in that state. (For more complete earlier report see page 27.)

C. R. Weber, Iowa State University agronomist, and J. M. Dunleavy, ISU plant pathologist, stated few if any Iowa soybean fields would be caught by frost at average first frost dates (Sept. 25 to Oct. 10 north to south) after a 770-mile survey Sept. 14 and 15 in all quarters of Iowa except the southwest quarter. Drs. Weber and Dunleavy estimated the Iowa crop at 28.5 bushels per acre compared with 27.5 bushels after their July survey and 29 bushels estimated by USDA Sept. 1. In general, weed growth averaged greater than in former years due to good growing conditions, they reported. Less volunteer corn was present. Nodulation was poorer than average and was believed to be associated with the higher incidence of root pruning accompanying root rots.

Increase In Soybean Diseases

Bacterial blight, stem canker and bud blight were all more prevalent in Iowa soybean fields this year than last, with both stem canker and bud blight breaking all previous records for prevalence, Drs. Dunleavy and Weber stated after their statewide survey. Bacterial blight was by far the most prevalent disease, occurring in 87% of the fields checked compared with 18% last year.

"Brown stem rot was eight times more prevalent in Iowa this year than in 1960," state Weber and Dunleavy. "The disease is prevalent in northeastern Iowa and occurs more commonly in southeastern Iowa. This is alarming considering the increased soybean acreage this year and the possibility of soybeans being grown in contaminated fields next year. **Brown stem rot frequently causes 15%-20% loss in yields."**

Record Oil Supply In Sight

Early September indications pointed to a record total supply of edible fats, oils and oilseeds during the 1961-1962 marketing year which began Oct. 1, of about 16 billion pounds (oil equivalent), **nearly 15% more than the quantity available during the marketing year just ending,** USDA stated the last of September. The increase in supply was due mainly to the record crop in prospect; lard and butter supplies will be slightly larger in 1961-62.

The quantity of food fats and oils available in 1961-62 would permit exports substantially greater than the 3.4 billion pounds (oil equivalent) estimated to have been shipped out during 1960-61, USDA says. The export outlook for food fats and oils in the 1961-62 marketing year looks bright because sales for dollars plus a large movement of edible oils under government programs are expected to result in a peak outward movement, according to USDA.

Prices to farmers during most of the heavy harvesting season this fall probably will average at about the national support rate of $2.30 per

bushel. End-of-the-year carryover next Sept. 30 will be close to the record 62 million bushels of Oct. 1, 1959, says USDA.

James E. McHale, in September 1961 Journal of American Oil Chemists Society, states: "The season now drawing to a close has been characterized by a steady buildup in oil supplies. . . . The buyers kept buying and the sellers kept selling and the next thing anyone knew oil stocks had reached an astoundingly high level . . .

"We are going into the new season with our carryover in the form of oil instead of beans. We would be inclined to suspect that we are going to have to have a very large surge in exports or we will not crush 400 million bushels of beans again. Crush might have to be cut severely."

Sept. 1 processor stocks of crude soybean oil totaled 134 million pounds as compared with 74 million a year ago. USDA estimated total U. S. stocks of soybean oil as of Oct. 1 at 560 million pounds compared with 308 million pounds a year ago; and total food fats and oils stocks at 1.1 billion pounds compared with 830 million pounds last Oct. 1. So the cupboard was far from bare just ahead of the big new crop coming up! (For another report on the outlook for the coming year see Washington Digest on page 36.)

USDA Urges Use of Loan Program

USDA officials the last of September urged soybean producers to carefully consider using price support loans and purchase agreements before selling their 1961-crop soybeans at less than support prices to protect them against unreasonable price declines and to minimize heavy market offerings at harvest time.

USDA noted that where harvest was not yet under way **producers might still have time to make arrangements for storage for holding soybeans** or putting them under price support loans. If commercial storage is not available, producers may obtain a farm facility storage loan from County Agricultural Stabilization and Conservation (ASC) offices.

Most of our reporters indicated that commercial storage will be adequate to handle the crop, at least in northern states. Russell S. Davis, Clayton, Ill., commented: "The big question is whether the division between the early and late varieties will give the trucks time to move the beans out as fast as they come in. D. R. Farlow, Farmer City Grain Co., Farmer City, Ill., noted: "In central Illinois there is quite a bit of farm storage. Also, many oat bins are empty and can be used for soybeans. Oat production was way down in this area."

J. B. Edmondson, Danville, Ind., wrote: "Commercial storage will be adequate if weather spreads out the harvesting in a normal way. More and more bins are becoming available on the farms." Said Arthur E. Frank, Dannen Mills, St. Joseph, Mo.: "We have reports that sales of farm bins have been the best ever." Quoting Hay Sullivan, Burdette, Ark.: "We will have to store most of our beans for 30 to 60 days. We have an overcrowded condition at our grain terminal."

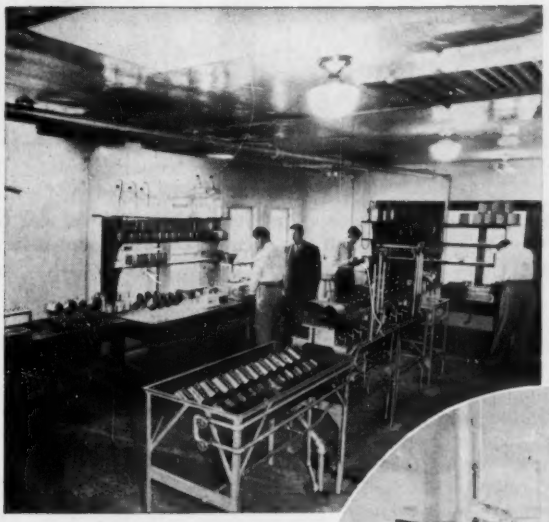
Purchase Relief Oils Soon

USDA announced Sept. 26 a plan to purchase soon one-half of the total quantity of 400 million pounds of vegetable oil products to be donated in 1962 to voluntary agencies for distribution among needy people in foreign countries. Commodity Credit Corp. will call for deliveries of the initial 200 million pounds of vegetable oil between Nov. 15 and Mar. 31. Contracting for the purchase of the remaining 200 million pounds will be completed before June 30, 1962.

Decision to purchase the vegetable oil for voluntary agencies was announced Sept. 20 by Secretary of Agriculture Orville L. Freeman.

Farmers Union Grain Terminal Association, St. Paul, announced that it had acquired the plant and all facilities of Minnesota Linseed Oil Co., 93-year-old Minneapolis processing firm. E. H. Russell, chairman of the Minnesota Linseed Oil Co. board, and Ray Lindquist, Jr., president, will continue in their present capacities. The plant will be operated as a subsidiary of Honeymead Products Co., Mankato, Minn., which is also owned by GTA.

8 Chemical Laboratories To Serve You 8



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RESEARCH ON SOYBEANS IN ALABAMA

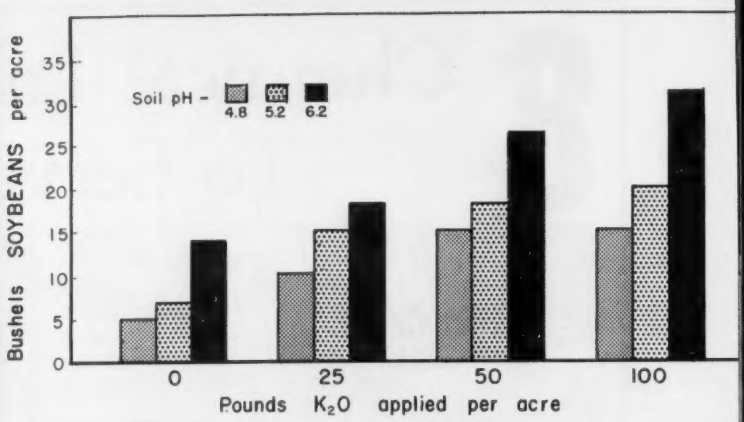


Figure 1. Soybean yields as influenced by pH level and four rates of potassium on soil low in potassium are shown in the above chart.

By E. L. McGRAW
Associate Editor, Auburn University

SOYBEAN ACREAGE planted for oil in Alabama has increased more than 13 times in the past 20 years with a present acreage more than 130,000. During the same period the state's average yield per acre has doubled to more than 20 bushels.

Three counties in southwestern Alabama and two in northeastern Alabama produce 92% of the soybeans for oil. These counties are Baldwin, 85,500 acres; Mobile, 10,300; Escambia, 12,700; Jackson, 8,800; and Madison, 4,800.

Variety tests have been conducted by the Auburn University Agricultural Experiment Station in cooperation with the USDA Southeastern Regional Soybean Laboratory, Stoneville, Miss. Dr. R. D. Rouse, soil chemist of the Station, was in charge of this work. Much of this research has been on evaluating new breeding lines.

Studies to determine the best planting dates were conducted at 11 locations in Alabama during 1953-57. In general, average yields for this period were unsatisfactory. A minimum yield of 15 bushels per acre is required for production to be profitable. However, it is pointed out that yields of all summer crops were very low in 1953 and 1954 because of inadequate rainfall.

Crop yields statewide were good in 1955, 1956, and 1957, but not good at several locations where soybean experiments were conducted. Data from these studies show that for most of the state, May is the best month for planting. However, for Baldwin and Mobile counties the planting date should be between May 15 and June 15.

Figure 2. The effect of fertilizer placement on soybean stand is shown in above plots. Both plots of soybeans received 400 pounds of 0-14-14 at planting. At left fertilizer was drilled too near the seed; at right fertilizer was applied broadcast.

Factors other than yield affecting harvested value under farm conditions pointed up by these studies were:

1—Beans planted before May 1 produced short plants with pods close to the ground. This resulted in considerable cutterbar loss when harvested.

2—These plantings throughout the state, and including those of May 1 at Fairhope (Baldwin County), produced beans of lower quality than those from later plantings.

Wide Row Plantings

A survey conducted by the National Soybean Crop Improvement Council in 1955 showed that most oil varieties of soybeans are planted in 36- to 42-inch rows. Results of a 3-year study in Alabama comparing late-planted beans (about June 1 and July 1) in 30- and 40-inch rows at 30- and 60-pound seeding rates for Lee and Jackson varieties show a 3- to 5-bushel advantage for 30-inch rows over 40-inch rows. The same advantage prevailed for June 1 plantings over July 1 plantings. There was no difference between 30- and 60-pound seeding rates or between varieties.

Results of a study comparing 10-, 20-, 30-, and 40-inch rows seeded at 60 pounds per acre and at 240-, 120-, and 90-pound rates on the 10-, 20-, and 30-inch rows, respectively, showed a marked increase in yield from decreasing row width. Yields were highest when the seeding rate was 60 pounds per acre. Three-year average yields at the 60-pound rate were 34 bushels per acre in 40-inch rows and 55 bushels in the 10-inch rows. These studies show that on land not heavily infested with weeds,

or where weeds are controlled, beans planted in narrow rows produce higher yields. On some soils satisfactory weed control can be obtained in late June plantings by one or two timely cultivations with rotary hoe without damage to stand.

In 1953, 1954, and 1955, a total of 13 soybean fertility experiments were harvested from farmer fields in Jackson County. The average yield was only 14 bushels; however, a response was obtained to potassium at five locations, to phosphorus at five, and to lime at two. Soil test values and leaf analyses indicated a higher number of responses might have been obtained with more optimum growing conditions.

Fertility Experiments

Fertility experiments were begun at the Lower Coastal Plain Substation, Camden, and at the Gulf Coast Substation, Fairhope, in 1952, and at the Brewton Experiment Field, Brewton, in 1953.

The experiment at the Lower Coastal Plain Substation was on a Norfolk sandy loam soil low in phosphorus and medium in potassium, with a pH of 6.0. Yields were very low for the period 1952-56 mainly because of dry weather and associated conditions. Yields never exceeded 15 bushels per acre during the period.

The experiment at Brewton was on Kalmia sandy loam high in phosphorus and low in potassium, with a pH of 5.3. The 5-year average yield shows a 50% increase from 50 pounds of potassium and a 20% increase from lime. The combined application of lime, phosphorus, and potassium resulted in an increase of more than 100% (12 to 26 bushels per acre). No increase in yield was obtained from nitrogen.

The experiment at the Gulf Coast Substation was on Marlboro sandy loam high in phosphorus and medium in potassium, with a pH of 5.1. Although no single element increased yield, a 10% increase was obtained where lime, phosphorus, and potassium were applied.

An experiment was conducted at Auburn on Norfolk sandy loam at three pH levels. The effect of potassium at each pH level was determined. Results showed that soybeans respond to lime and potassium applications when reserves in the soils are low.

Liming increased yields from 15 to 31 bushels per acre where the high rates of potassium were applied. On plots with a pH of 6.2 potassium increased yields from 14 to 31 bushels per acre.

When placed in contact with seed, soluble fertilizers damage seedlings. An experiment comparing drill with broadcast application of 400 pounds of 0-14-14 was conducted at the Plant Breeding Unit, Tallassee, in 1955 and 1956. The stand was 25% less when the fertilizer was applied in the drill than when broadcast. Correspondingly, a yield reduction of 10 bushels per acre resulted. This shows that if the fertilizer is drilled, care must be taken to ensure placement of fertilizer 2 to 3 inches to the side of the seed to avoid stand and yield reduction.

Summary

Recommended varieties and planting dates for Alabama are:

Northern counties	Hood, Lee	May 1-30
Central counties	Lee, Jackson	May 1-30
Baldwin and Mobile counties	Lee, Jackson	May 15-June 15

The above variety recommendations are based on availability of certified seed, high oil content, shattering resistance, and disease resistance.

Soybeans should be planted in rows as narrow as weed and grass control will allow. The seeding rate should be approximately 60 pounds of viable seed per acre.

Soybeans respond to lime and fertilizer when there is a deficiency of these materials in the soil. Soil test recommendation should be followed and the fertilizer either broadcast or placed 2 to 3 inches to the side of the seed if drilled at planting.

● *For further information on soybeans in Alabama, a copy of the new circular 138, "Soybeans for Oil in Alabama," may be obtained by writing: Publications Department, Auburn University Experiment Station, Auburn, Ala.*

Riepma Says Europe Will Maintain Margarine Lead

WESTERN Europe will continue for the foreseeable future to be the largest single production "bloc" in world margarine, says Siert Riepma, president of the National Association of Margarine Manufacturers.

Europe's share of world margarine production will be lower as margarine or vanaspati consumption increases outside of the product's homeland.

HIROMASA TAGO, assistant secretary, and Lew West, president of Pacific Grain Co.; and David R. Farlow, assistant manager, Farmer City Grain Co. (read left to right).

NEW 325,000-bushel grain elevator of Pacific Grain Co. was in operation in September.

Mitsui in Farmer City, Ill., Grain Operation

A NEW ILLINOIS corporation known as the Pacific Grain Co. has been born in Farmer City, Ill., under a 50-50 venture between Mitsui & Co., Ltd., and Farmer City Grain Co. The picture shows the almost completed 325,000-bushel terminal grain elevator that was completed early in September in time for the new crop.

Mitsui & Co. is a well-known international export and import company. Main offices are in Tokyo, Japan, and trade is conducted through more than 60 overseas branches all over the world.

Farmer City Grain Co., whose president is L. E. West, has been shipping variety-pure recleaned soybeans to Japan for several years. This cooperation led to the forming of Pacific Grain Co.

Pacific Grain will operate in cooperation with Mitsui & Co., but also independently of either Mitsui or Farmer City Grain and will serve both domestic and export markets. Mr. West will serve as president of Pacific Grain, T. Sanda as secretary, and Ralph Dougherty as treasurer.

The main purpose of forming Pacific Grain Co. was to control the quality of grain, mostly corn and soybeans, during the process of marketing. As has been shown by the close cooperation between Mitsui and Farmer City Grain, quality grain can be shipped from the central United States and arrive in foreign ports retaining its high quality, if the movement is controlled from the producer to the ultimate consumer. Without this control, quality cannot be maintained.

By entering into this unique arrangement, Farmer City Grain and Mitsui & Co. hope to maintain this quality control and at the same time increase the volume of grain they are able to handle.

Central Soya Promotes Tellman, Rosenberger

THE PROMOTION of James E. Tellman to plant manager at its Memphis, Tenn., plant has been announced by Central Soya, Fort Wayne, Ind.

Mr. Tellman, who was salary and wage administrator in the company's Fort Wayne office, succeeds Jack A. Rosenberger, who has been promoted to Central Soya's Marion, Ohio, plant. In his new position, he will be responsible for general administration of all plant activities, exclusive of sales.

Mr. Tellman joined Central Soya in 1949 as an accountant.

At Marion, Ohio, Mr. Rosenberger succeeds Max Spencer, who has accepted a position with the Griffith Laboratories in Chicago. Mr. Rosenberger had been plant manager of the Memphis, Tenn., plant since November 1958.

Report on Lodging Tests At Maryland Station

LODGING IN soybeans is a serious problem, reducing yields in some seasons and in some environments. Not only is lodging annoying to the combine operator, but it can also reduce yields through larger combine losses. Dr. R. C. Leffel, Maryland Agricultural Experiment Station, conducted several studies on plant lodging in soybeans as a basis of selection for improving soybeans through breeding.

Previous studies in soybeans indicated positive associations between seed yield and plant maturity, height and lodging. To determine the effect of plant lodging on yield and quality of soybean seed, Dr. Leffel ran an experiment for 2 years (1956 and 1957) at Cambridge, Md. Dorman and S-100 soybeans were subjected to four artificially produced lodgings at 2-week intervals from early bloom to maturity. The simulated lodgings were done by pulling a steel rod over the beans. Other treatments included natural lodging and artificially prevented lodging treatments.

Simulated lodging had no effect on seed yields of either Dorman or S-100 in 1956. Seed yields of S-100 were reduced in 1957 at all dates of lodging; yields of Dorman were reduced only at earlier lodgings in this particular year. Prevention of lodging by artificial means failed to increase yield of seed of either Dorman or S-100. Quality of seed was not affected by lodging. These results indicate that severe plant lodging can decrease seed yields in some years, but suggest no change from present soybean selection standards.

Soybean Meal Better As Protein Source

SOYBEAN MEAL gave better results than tankage as a source of protein for pigs in two recent tests at the Mississippi Agricultural Experiment Station, State College, Miss. Even when tankage-fed pigs got extra vitamins they still did not gain as fast as those on soybean meal.

Dr. B. F. Barrentine and C. B. Shawver conducted the tests at Mississippi State University to learn more about the value of tankage and how it might be supplemented.

Two sources of tankage were used in the first test. They were compared to soybean meal in an 18% protein ration. Pigs on soybean meal gained 1.38 pounds daily in the 35-day feeding test. Those on tankage gained only half as much. Equal parts of soybean meal and tankage produced 1.22 pounds of daily gain.

Next came the vitamin test which lasted 76 days. Here the daily gains were as follows: soybean meal, 1.60 pounds; tankage alone, 1.11 pounds; tankage plus vitamins A and D, 1.02 pounds; tankage plus Aurofac, 1.20 pounds; and tankage plus amino acids, 1.19 pounds.

From these results, Dr. Barrentine concluded that none of the supplements corrected the tankage deficiencies. Preliminary work indicates that the calcium in tankage is poorly utilized by pigs, probably because of the large bone size. Further studies are planned on this problem.

Outlook for Soy Products Bright in Benelux Countries

By WILLIAM A. LUYKX

Director Benelux Office, Soybean Council of America

THE AVERAGE level of nutrition of the three countries, Belgium, the Netherlands, and Luxemburg, is rather satisfactory. The diet is fairly well balanced.

Because of the rise in the standard of living, about 40% fewer potatoes are being sold now than in 1950. Wheat consumption in bread has decreased in the same period from around 100 kgs. per person per year to slightly more than 78 kgs. The daily average intake of protein foods, such as meat and poultry, is increasing.

William A. Luykx

The daily diet averages 2,925 calories, some 80 grams of protein, 125 grams of fats, and close to 380 grams of carbohydrates.

There are, however, significant differences between consumer habits in the Netherlands and Belgium. Meat consumption in Belgium is reported to be 25% higher than in the Netherlands, while the latter country drinks about twice as much milk as the former.

The Common Market authorities have paid considerable attention to the consumption levels in these countries. A careful analysis has been made, upon which forecasts for 1965 have been based. These studies indicate that wheat consumption will go down, in Belgium 8%, in the Netherlands 15%. Meat consumption should increase more than 10%, and fats by about the same percentage. Remarkably, the study indicates that the protein level will increase only slightly be-

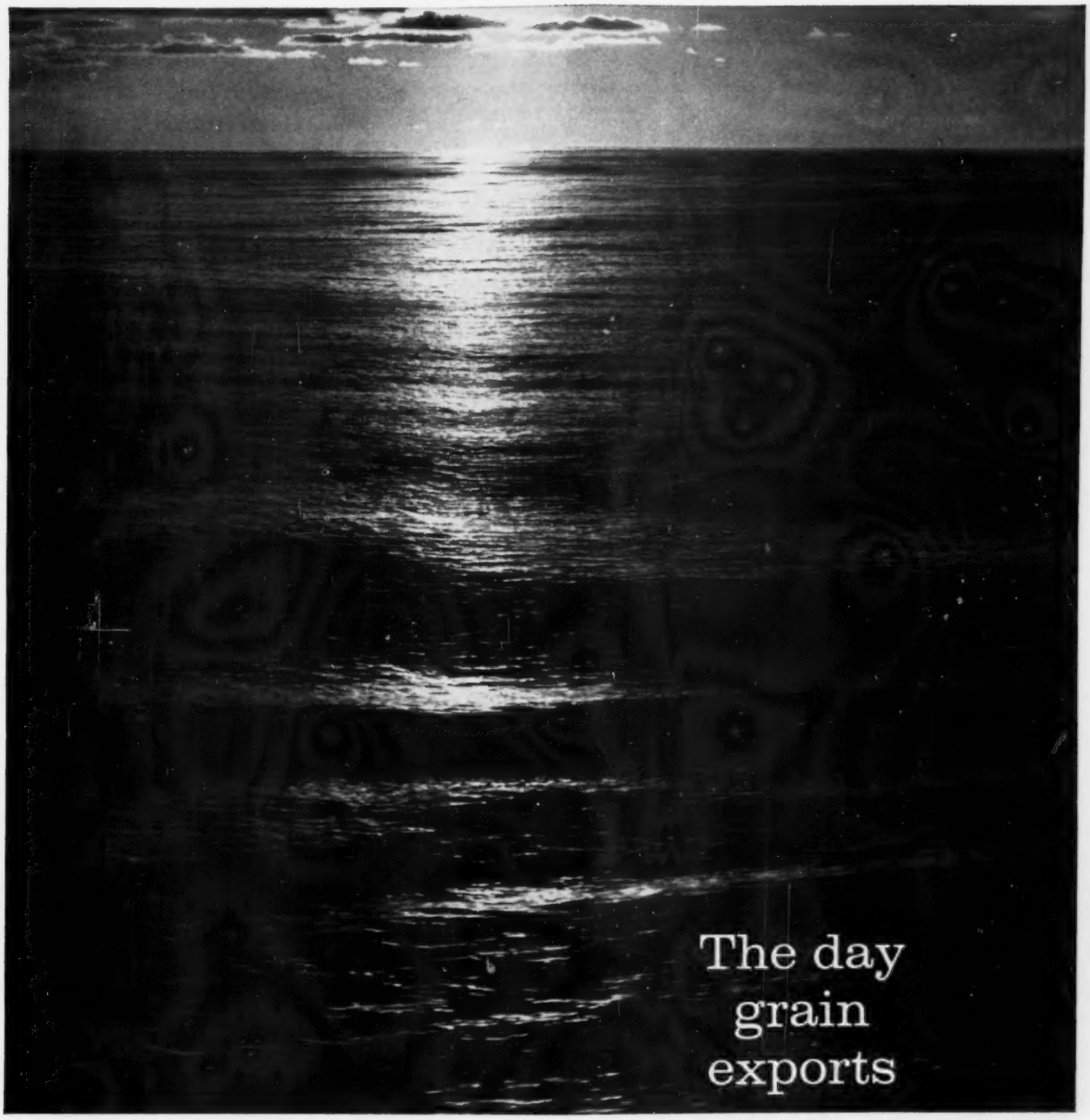
The Soybean Council Around the World

BOMBAY OFFICE. Maharajkumar Virendrasingh, the Council's acting director for India (left), shows samples of soybean oil at different stages of its processing for vanaspati manufacture to James O. Howard, director of the trade project division of USDA's Foreign Agricultural Service. On Mr. Howard's right is Roy Sellers, American Consulate, Bombay, and next to him is Mrs. Gool J. Poput, the Council's acting assistant director for India. Mr. Howard and Mr. Sellers were recent visitors to the Council's Bombay office.

LONDON TRADE CENTER. Discussing plans for the soybean exhibit at the U. S. Trade Center which recently opened in London are J. L. Krider, Council vice president; Reginald I. Wood, the Council's United Kingdom director; and Paul Findlin, assistant agricultural attache. SBCA President Howard L. Roach participated in the opening of the trade center in September.

RECEPTION recently given by the Soybean Council in Lisbon, Portugal. Left to right, Miguel Jardim, assistant U. S. agricultural attache, Lisbon; Simoes Monteiro, technician of Junta dos Produtos Pecuarios; Javier de Salas, the Council's director for Spain; Frank Ehman, U. S. agricultural attache; and Elias Marques Esteves, Junta dos Produtos Pecuarios.

VARESE FAIR. Adolino Di Giorgio (left), the Council's assistant director for Italy, discusses the uses of soybeans and soybean products with the Hon. Nullo Biaggi, Italian Under Secretary for Industry and Commerce, during Mr. Biaggi's visit to the Council stand at the 8th National Poultry Show at Varese, Italy, while Emilio Nacci of the Council's press office looks on.



stopped

It could happen! It's happening to U.S. tobacco, which is beginning to price itself out of its once-lucrative export market. Without grain exports resulting surpluses would make today's a piker by comparison. Domestic prices would tumble. The whole farm economy would suffer.

How can we protect our markets?... and more, how can we maximize exports? Since most foreign buyers shop for the cheapest grain, we must continue to search for ways to reduce the price spread from producers to consumers...to keep U.S. grains competitive in the world market.

Farmers are pressing for more efficient yields to lower costs. Elevators are utilizing the efficiency of the private grain trade. And companies like Continental are stepping up marketing and research to find lowest cost ways to deposit the fruits of American Agriculture on foreign soil. This teamwork assures an ever-widening and profitable export market for all of us ...farmer, elevator and grain company.

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Helping American Agriculture serve the nation and the world

cause of decreased protein consumption from non-animal sources.

Both countries at present suffer from an overproduction of milk, which in the case of Belgium could become a shortage if consumption could be raised to the Dutch level. Consumer habits, however, including a preference for beer, and lack of unified promotion stand in the way of improving this situation.

Though there is a slight overproduction of meat there is actually an undersupply of quality meats. The practice of producing heifers and steers for the butchers trade is catching on, especially in the Netherlands. In Belgium, the government, aware of the situation, has charged a national committee with the responsibility of finding methods of curing the two evils of too much milk and not enough reasonably priced quality meat.

The Benelux offices of the Soybean Council and the U. S. Feed Grains Council are very happy to support these endeavors indirectly through joining forces with the farmers' and feed manufacturers' organizations. They have set up demonstrations of efficient animal production, mainly through well balanced feeding.

Market for Soybeans

Until recently both countries purchased large quantities of U. S. soybeans. If the price situation makes beans competitive again with other oil bearing materials, soybeans again will flow in large quantities to the extraction plants. Some soybean plants have been closed until, as the crushers put it, better times arrive.

The food market for soy products, such as soy flour and isolated proteins, is still rather limited, but rapidly increasing know-how is spreading in the bakery industry. Many manufacturers of cookies, rusks, etc., are gradually adding soy flour to more products. The improved color and better shelf life seem to be the best selling points.

However, basic mistakes have been made in some cases, which have retarded soy flour usage. Some importers lacking technical information sold the wrong type of flour to the manufacturers or gave recipes that did not work. Also, some imports of low quality flour gave the product a bad name. But the situation is clearing considerably.

There should be every reason to increase the addition of soy flour to bread, to improve its nutritional value also, since wheat bread is the staple food of the low income groups. They look on it as a status food. Among these groups meat consumption is rather low. Negotiations are under way to start a campaign for this type of bread with soy flour added. However, some rather big hurdles must still be taken.

Council Exhibits at Alexandria Fair

THE SOYBEAN COUNCIL was represented with a small stand at the fifth Alexandria, Egypt, Industrial and Commercial Fair, Andre Tawa, UAR director, reports.

The exhibit stressed soybeans, soybean oil and finished edible products. Substantial quantities of literature were distributed daily to the many visitors who flocked to the beautiful summer resort at Alexandria known as the "Pearl of the Mediterranean."

Alexandria is the oldest existing harbor in the world. It is completely mechanized now. The harbor handles over 50% of Egypt's maritime trade —over 4 million tons of imports and 2 million tons of exports yearly, says Mr. Tawa.

Roach at Opening of London Trade Center

HOWARD L. ROACH, Soybean Council president, participated in the opening of the U. S. Trade Center in London early in September. The Council has a display of soybeans and soybean products there.

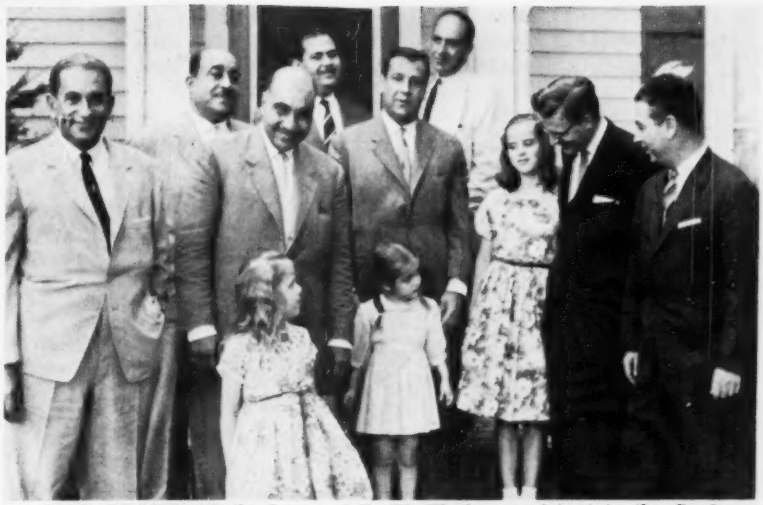
The center, which is operated by the U. S. Departments of Commerce and Agriculture in conjunction with the American Embassy, will serve as a showcase for U. S. products, including soybeans, and a focal point for an intensified U. S. trade promotion program.

UAR Cabinet Members Make Soybean Tour

TWO MEMBERS of the cabinet of President Nasser of the United Arab Republic and two UAR under secretaries of state included the Soybean Council offices and a tour of soybean growing and processing facilities as part of a 3-week visit to U. S. food industries in September.

The members of the group included His Excellency Kamal Ramsi Stino, Central Minister of Supply, and His Excellency Gamal Soufi, Northern Region Minister of Supply. Also in the party were Ibrahim Fahmy Metwalli Omar, Under Secretaries of State, Ministry of Supply; and Hassan Amin, technical adviser.

The party were guests of the U. S. government for 3 weeks. The soybean tour in Iowa was included at their request. The UAR is a growing market for U. S. soybean oil, in part due to the market development efforts of the Soybean Council. The UAR imported 7,000 metric tons of soybean oil in 1959, 17,000 in 1960, and is in the market for up to 50,000 tons this year.



UAR GROUP AT the home of R. W. Fischer, assistant to the Soybean Council president. Front, l to r: Martha Lou and Dorothy Ellen Fischer. Center, H. E. Kamal Ramsi Stino, Ibrahim Fahmy, H. E. Gamal Soufi, Barbara Jean Fischer, Fischer, and Andre Tawa, the Council's UAR director. Rear, Metwalli Omar, Hassan Amin, and Mr. Nofal, U. S. State Department.

The group visited Bordens Soy Processing Co. and Rath Packing Co. at Waterloo, Iowa; and farms near Plainfield, Iowa.

Andre Tawa, UAR director of the Soybean Council at Cairo, was also in this country during September. He attended the protein conference at Peoria, Ill., and spent some time at the Council offices at Waterloo.

PUBLICATIONS

Useful reports, circulars, articles; for a complete list of experiment station publications and books relating to soybeans write Soybean Digest, Hudson, Iowa.

Prices Hard to Predict

FARMERS or anyone else seldom have the detailed knowledge to predict all the changes in soybean prices, a University of Illinois agricultural economist points out in a new publication just released.

T. A. Hieronymus says the factors affecting soybean prices are very complex and it is difficult to set up definite rules about seasonal soybean price patterns. He does list these general observations, however, based on a study of soybean price movements since World War II.

It is difficult to overestimate the demand expansion rate for soybeans. Substantially more can be used each year at a constant price. Exports and domestic use have shown remarkable expansion in the last 10 years.

When the soybean crop is short, the price usually peaks early in the marketing year following harvest.

Oil prices are sensitive to the world supply and demand and tend to move in long cycles. Other things being equal, soybean prices move in the direction of oil prices.

Meal prices are sensitive to changes in livestock numbers, particularly hogs. Farmers have profited from holding soybeans when an increase in the spring pig crop is anticipated.

Meal consumption responds to price. High prices in the fall and winter often result in a falling price in the spring and summer. Low fall and winter prices may also be followed by rising prices in spring and summer.

Soybean prices respond to the general inflation-deflation conditions and move in the general trend with other commodity prices.

Speculative activity in both cash and futures markets by farmers and others is very important in determining the seasonal pattern of prices, Hieronymus points out. There is a tendency to put the price either too high or too low at harvest and remember only last year. This produces an every other year trend to soybean holding. So the most profitable procedure might well be to do what would have been unprofitable the year before, he concludes.

These guides are published as part of Circular 833, *When to Sell Corn, Soybeans, Oats, and Wheat.* Copies may be obtained from the University of Illinois College of Agriculture, Urbana, Ill.

Study Shows Illinois Bean Price Most Stable

BECAUSE OF the large volume of Illinois soybeans produced, Illinois soybean prices had the most stable relation to the U. S. average price in 1946-1958, according to a study by the north central regional grain marketing committee. Illinois produces double the quantity of soybeans annually produced by any other state.

Illinois prices averaged highest of six North Central States which included Ohio, Indiana, Missouri, Iowa and Minnesota, in 6 of 12 years. Ohio and Indiana were usually within 6¢ of Illinois. Iowa soybean prices probably averaged as high as Illinois but showed more variation. Minnesota was lowest in 6 years and Missouri in 5 years of the 12-year period.

Relatively few soybeans were grown outside the north central region in 1946. Since, soybean production has expanded rapidly in the Southern and Southeastern States, and prices have declined in relation to those of the North Central States.

Chicago prices were above those of other markets in all years, apparently due to Chicago's location near the center of soybean production and the high quality of Illinois soybeans.

Changes in Spatial Grain-Price Patterns in the United States and in the North Central Region 1946-1958. North Central Regional Publication 107. Manuscript prepared by C. P. Schumaier, Illinois Agricultural Experiment Station, Urbana, Ill.

Rapid Increase in Truck Shipments

TRUCK SHIPMENTS of soybeans purchased by elevators in the north central region have been increasing rapidly in recent years, from 19.9% of all soybeans purchased in 1954 to 37.5% in 1957, but the volume is still well below that hauled by the railroads. The percentage hauled by rail in 1957 was 57.3%.

Soybean movements by truck are largely restricted to short hauls to processing plants or river subterminals.

Only 19.5 million bushels out of 360 million purchased by elevators were trucked out-of-state in 1957. About 40% of this total was shipped from Indiana, and this largely went to Chicago.

Any extensive long-distance trucking of soybeans seems unlikely to develop, because the oil and meal fractions have different uses. Processing the soybeans relatively near production, with truck shipment of the products separately, should be more economical than trucking the soybeans to distant processing plants.

Truck Shipments of Grain in the North Central Region, 1956. By C. P. Schumaier and C. L. Ahrens, for the North Central Grain Marketing Research Committee, University of Illinois, Urbana, Ill.

Truck Shipments of Grain in the North Central Region, 1957-58. By C. P. Schumaier and C. L. Ahrens, for the North Central Grain Marketing Research Committee. University of Illinois, Urbana, Ill.

See also:

Truck Shipments of Grain from Indiana Elevators, 1956-57 to 1958-59 Marketing Years. By David A. Storey and Paul L. Farris. Mimeo EC-211, Agricultural Experiment Station, Lafayette, Ind.

Increase in Protein Supply A Great Need

IF WE ARE to improve the status of the people of the world in longevity, health and productivity we must increase and improve the protein supply as rapidly as possible.

If we utilize oilseed press-cakes now wasted, if we make maximum use of the products of the sea, if we turn from wasteful agricultural practices, and if we use our chemical ingenuity and capacity, we certainly can improve the condition of millions in the world today.

The Prospect of Meeting Protein Needs. By Henry Sebrell, Jr., Columbia University. Proceedings of the Fifth International Congress on Nutrition, Vol. 20, No. 1, Part 3, Supplement No. 7, March 1961, pages 393-397.

THIS PORTABLE POWERHOUSE HANDLES EVERY CONVEYING JOB IN PORT*

Pneumatic Grainvayor loads or unloads . . .

Ships and barges
Trucks and boxcars
Buildings and storage facilities

Pick any bean or grain conveying job you can think of . . . the tougher the better. If you can get a pneumatic pipe to it, the Grainvayor will convey it . . . around corners and obstructions, up heights as high as 150 feet, across distances greater than 500 feet, at capacities up to 4,000 bushels per hour.

Because it's the most versatile conveying system you can buy, it replaces a number of fixed conveyor installations, performs many jobs with ease that would be impossible with any other conveying method.

One man is all it takes to move it from job to job and operate it exactly where and when it's needed.

Best of all, Grainvayor cleans and upgrades while it conveys . . . screens out dust, dirt, insects, rodent pellets, and other foreign materials with its patented Kwik-Kleen vacuum separator.

Find out how Grainvayor can make versatile bulk material handling easier and more profitable for you. Phone or write for complete details on the pneumatic Grainvayor and the many things it can do to save you time and money.

**P.S. It does as much, saves as much for inland operations, too.*

DESIGN FEATURES

Overall Height	110 inches
Overall Length	124 to 134 inches
Overall Width	72 to 82 inches
Ground Clearance	12½ inches
Turning Radius	14'3" to 15'1"
Weight (approx.)	4485 to 6780 lbs.
Available Engines:	General Motors 6-71 Diesel Cummins J-S-6P Diesel International UR 450 International UV 549 Continental 427
Engine Horsepower	84 to 182 H.P.
Engine Speed	1800 to 2700 RPM
Compressor	Turbo-Jet Centrifugal, Multi-Stage design
Fan Blades	Aluminum die-cast involute curves for accuracy & efficiency
Fan Diameter	38 inches
Fan Housing	3/16" First Stage and ¼" Plate on Final Stage
Air-Lock Valve	Hydraulic, rotary, automatically reverses to clear foreign material blockage
Cyclone	10 gauge upper construction with 12 gauge abrasion-resistant cone
Bearings	2 7/16" Fafnir, heavy-duty LAO Pillow Blocks
Shafting	Turned, ground, and polished high tensile alloy steel

(NOTE: Multiple specifications indicate the range covered by various models)

MS

MYERS-SHERMAN COMPANY
S. ILLINOIS STREET • STREATOR, ILLINOIS

Life Story of Dr. Miller

THE LIFE STORY of Dr. Harry Willis Miller, director of the International Nutrition Research Foundation at Arlington, Calif., whom soybean people the world over claim as their own, has been thrillingly told in a new book by Raymond S. Moore.

Dr. Miller has blazed a broad trail in his lifelong research on soybeans as a food for the world's malnourished, particularly in the Orient. His development and popularization of soy milk has contributed greatly to the battle against malnutrition in the Far East. He put into operation the world's first modern vegetable milk plant in Shanghai as long ago as 1937, and since many soy milk plants in the Orient have been started under his leadership.

Dr. Miller perfected many soy foods in his International Nutrition Laboratory at Mt. Vernon, Ohio, which he sold to Loma Linda Food Co., Arlington, Calif. He has been a lifelong active supporter of the American Soybean Association, of which he is an honorary life member.

The people who work with soybeans are well aware of all this, but it would still be easy to underrate Dr. Miller, for he is a many-sided man. Perhaps not so well known to them is the fact that he is one of the most widely practiced surgeons in the world. He was consulting physician to three U. S. presidents and personal physician to many leading national figures. He built 15 hospital-clinics in Asia.

He has spent a large share of his life in China as a medical missionary and converted thousands to Christianity during the half century in which he labored there.

In recent years he has spent much time relieving his medical colleagues in foreign lands — on Formosa, in Trinidad, Libya and Tokyo. At 83 he is still healing and caring for the people of the Far East.

He received China's highest honor, the Blue Star of China, for the great services he has rendered to that country. It was bestowed on him by Chiang Kai-shek.

China Doctor. By Raymond S. Moore. 216 pages illustrated. Price $3.95. Harper & Brothers, 49 East 33rd St., New York 16, N. Y. Or order through Soybean Digest, Hudson, Iowa.

DR. AND MRS. MILLER and Generalissimo and Madame Chiang Kai-shek.

See New Record Yields

USDA ESTIMATED the 1961 crop at 720 million bushels, up 37 million bushels from the Aug. 1 estimate of 683 million bushels after soybean production prospects improved 5% during August. Galvin-duPont estimated the crop at 738 million bushels.

The U. S. average yield of 26.6 bushels per acre compares with 23.6 bushels last year and the previous record of 24.2 bushels in 1958.

In the north central area yields were reported at record levels in most of the important states. There were record yield prospects in all producing states in the north and south Atlantic and south central areas although a part of the crop was later than usual.

A small amount of combining of soybeans had been done in most Northern States by late September, and the harvest was expected to be well under way by Oct. 1 with favorable weather.

Reports from Soybean Digest correspondents:

Arkansas. Hays Sullivan, Burdette Gin Co., Burdette (9-18): Beans were planted late but are fast coming back to normal. Condition best in several years. Harvest will begin Oct. 1. This is one of the cleanest crops. Reports are for 40 bushels or better. We will have to store most of our beans for 30 to 60 days. We have an overcrowded condition at our grain terminal.

Delaware. Richard H. Cole and W. H. Mitchell, University of Delaware, Newark (9-18): Many late varieties planted and varietal mixture still a problem. Crop condition fair to excellent. Crop movement will begin Oct. 2, somewhat later than 1960.

Illinois. L. Parke Kerbaugh, Stanford (9-18): Many fields tangled. Crop movement will begin week later than 1960. Some weedy and grassy fields. Think that average amount of soybeans will go into storage, others to market. In this area not many are used to storing soybeans.

C. G. Simcox, Assumption (9-12): Dry weather caused premature ripening. Never saw beans drop their leaves in such a short period of time. Beans will be smaller in size than normal.

Minnesota. John W. Evans, Montevideo (9-18): Maturity advancing fast. Crop condition good to excellent. Could use drying weather. Crop movement earlier than 1960. Yield outlook good.

Chas. V. Simpson, Waterville (9-18): Maturity slightly ahead of average. Crop condition excellent. Crop movement ahead of last year. Yield outlook slightly higher than USDA estimate.

Missouri. Arthur E. Frank, Dannen Mills, Inc., St. Joseph: We had one bean stalk brought into office with 246 bean pods of two and three beans each. One dealer reports one (stalk) containing 414 pods—said he was offering a prize for the stalk with most pods. We have reports that sales of farm bins have been the best ever.

Nebraska. C. W. Holmquist, Holmquist Grain & Lumber Co., Oakland (9-16): Crop condition excellent in most areas. We had rains in September that will retard the crop. Some beans quite weedy but believe harvesting will not be a problem as far as maturity is concerned. We believe yield will be 25 to 30 bushels.

Ohio. G. G. McIlroy, Irwin (9-19): Some beans have been combined. Condition of crop good with average crop of weeds. Beans harvested are 12% moisture.

South Carolina. H. W. Perrow, Cameron (9-18): Crop condition good. Harvest will begin Nov. 1. We need a more effective herbicide to kill weeds. Alanap and Dinitro did not work this year. Burs are bad in some fields.

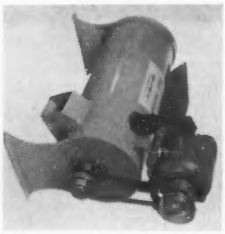
SOYBEANS FOR BEANS, September 1961
Crop Reporting Board, SRS, USDA

	Yield per acre			Production		
	Average 1950-59	Indicated 1960	Indicated 1961	Average 1950-59	1960	Indicated 1961
	Bushels			1,000 bushels		
N. Y.	16.4	17.0	19.0	90	51	38
N. J.	20.4	24.5	25.0	615	808	775
Pa.	18.4	23.0	24.0	316	161	144
Ohio	23.2	25.0	27.0	28,153	37,805	45,792
Ind.	23.6	27.0	29.5	46,838	65,205	83,810
Ill.	24.6	26.0	30.0	107,187	129,298	165,240
Mich.	21.2	21.0	25.0	3,662	4,641	6,300
Wis.	15.4	16.0	19.0	1,139	1,536	2,204
Minn.	19.2	20.0	23.0	37,543	41,800	53,360
Iowa	23.5	26.0	29.0	51,965	67,574	102,022
Mo.	19.6	21.5	26.0	34,995	50,396	65,676
N.Dak.	13.8	13.0	13.5	1,517	2,288	2,727
S.Dak.	14.2	17.0	18.0	2,072	1,700	2,232
Nebr.	21.3	28.0	27.0	2,749	4,172	6,750
Kans.	13.1	22.0	24.0	5,295	12,892	16,848
Del.	18.8	24.0	24.0	2,105	4,536	4,896
Md.	20.4	26.0	26.0	2,949	5,850	6,916
Va.	18.6	22.5	22.0	4,036	7,200	7,744
N. C.	18.4	22.5	23.0	6,556	11,902	13,708
S. C.	13.1	19.5	21.0	3,147	9,730	11,739
Ga.	12.3	17.0	18.0	645	1,275	1,368
Fla.	20.4	26.0	27.0	523	780	972
Ky.	18.8	22.0	24.0	2,615	4,378	4,824
Tenn.	19.0	22.0	24.0	4,650	8,668	9,960
Ala.	19.5	24.0	24.0	1,982	3,192	3,648
Miss.	17.3	22.5	25.0	10,704	20,610	27,300
Ark.	18.4	21.0	24.0	24,003	50,589	61,872
La.	19.0	24.0	24.0	1,980	5,184	5,952
Okla.	13.1	20.0	21.0	682	2,480	3,045
Texas	[1]21.4	27.0	29.0	446	2,025	2,494
U. S.	21.4	23.6	26.6	391,162	558,771	720,356

[1] Short-time average.

NEW PRODUCTS and SERVICES

SEED SAVER. The latest addition to the Seedburo Equipment Co.'s product line is the Seed Saver, a special piece of equipment developed to accomplish better threshing by holding seed in the cylinder a much longer time than the ordinary combine cylinder.



Designed especially so that it will not crack or hull the material, the seed saver will handle the capacity of the largest type cleaner. Wheat, brome doubles, alfalfa pods, flax bolls, soybean pods and barley heads can now be threshed thoroughly and returned to the cleaner for process completion.

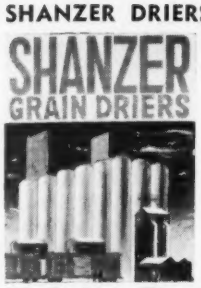
For complete details write Soybean Digest 10a, Hudson, Iowa.

PRATER GRINDER. Representing more than 35 years' experience, the new Prater Gladiator Grinder operates smoothly and efficiently even under shock loads. This GH9 series is available in five combinations.

Some of the outstanding features are: all-steel structural base, dual or single power, easily adjustable feed gate control and long lasting hammers.

For a copy of Gladiator Hi-Speed Grinder Bulletin 361G write Soybean Digest 10c, Hudson, Iowa.

SHANZER DRIERS. Detailed information on the Series 900, Series 1200, and Series 1500 Shanzer Grain Drier models is contained in a 4-page bulletin recently completed by the manufacturer.

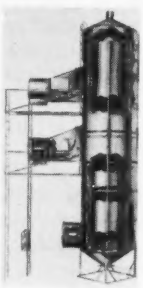


In addition to dimension sketches and specification tables, the brochure contains information on the equipment's new safety control center and screen column design.

A copy may be obtained by writing Soybean Digest 10d, Hudson, Iowa.

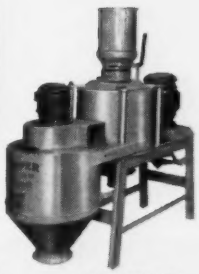
GRAIN DRIER. Ace Supply & Equipment Co. has announced its model CF-75 Continuous Flow Grain Drier, which will dry 1,000 bushels per hour. The unit is similar in design to their 800-bushel-per-hour machine.

The new model CF-75 is equipped with such Ace High features as push-button operation, foolproof sequence starting, safety shutoff and alarm, and simplicity of operation. Like all Ace-High Continuous Flow Driers, the design includes the exclusive climatic control neutral chamber, which can be made part of either the heating chamber or the cooling chamber in a matter of seconds.

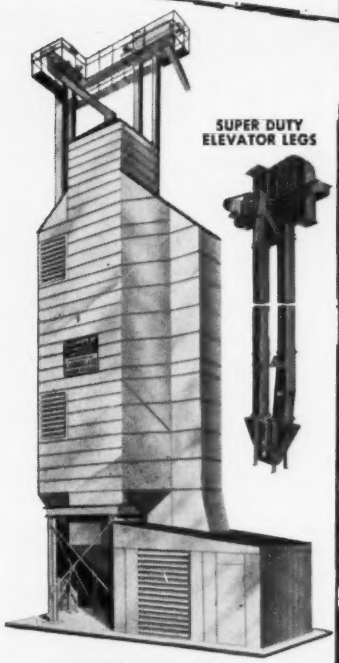


For more information write Soybean Digest 10b, Hudson, Iowa.

there's a world of DIFFERENCE with a ... Clipper



EDDY GIANT
HULLER-SCARIFIER



SUPER DUTY
ELEVATOR LEGS

THE CLIPPER-RANDOLPH
GRAIN-SEED-RICE DRIERS

Vive la Difference! Clipper's superior quality and dependability has earned the respect of the industry the world over. A. T. Ferrell and Company holds to their obligation to provide operators with precision equipment, expertly designed and quality built to give dependable performance at low upkeep. Only Clipper can offer you today's most complete line of modern grain and seed handling equipment—notably—the world-famous Clipper Super X precision cleaners, Super G grain cleaners and Clipper-Randolph Driers. To understand the *World of Difference With A Clipper,* start by sending for our free, BIG illustrated brochure or contact your nearby Clipper representative.

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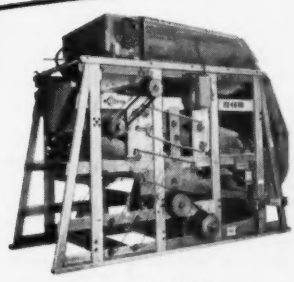

SUPER G 2248-BD
HI-CAPACITY GRAIN CLEANER

SUPER X 29-D
PRECISION SEED CLEANER

HOLZINGER
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SEED CLEANERS • GRAIN CLEANERS • SCALPERS • BEAN CLEANERS • CORN GRADERS (SIZERS)
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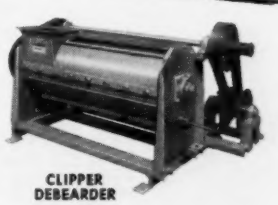
SEED TREATERS • SAWDUST MIXERS • and other related products by CLIPPER



CLIPPER
DEBEARDER

Pakistan Will Increase Oil Imports

PAKISTAN. In the next 5 years, Pakistan's imports of edible oils are expected to increase sharply, reaching an annual level of 200,000 metric tons by 1965 compared with about 50,000 tons in 1960-61, USDA's Foreign Agricultural Service reports.

In East Pakistan, imports are expected to triple in the 5 years, reaching 75,000 metric tons in 1964-65. In West Pakistan the rise is expected to be even greater—from about 25,000 tons in 1960-61 to 125,000 tons.

Increased consumption of vegetable fats and oils in the next few years is expected to result from a continuing downward movement in prices due to lower unit production and distribution costs and increased competition for a market that is developing quality consciousness.

In 2 years—by 1963—West Pakistan's vanaspati (vegetable ghee) capacity is expected to expand from today's 36,000 metric tons to 132,000 tons. This industry is a market for U. S. soybean and cottonseed oils, currently only in drums although bulk facilities are under consideration for Karachi.

JAPAN. Oilseeds (mostly soybeans) stood third in dollar value in total imports from the United States in 1960, being exceeded only by raw cotton and iron and steel scrap, according to the United States-Japan Trade Council. Value of these exports were as follows: raw cotton $217 million, iron and steel scrap $120 million and oilseeds $105 million.

Exports of U. S. cotton totaled well over the cotton and wool manufactures imported from Japan in 1960, which totaled $146 million.

Japan is now the top foreign market for U. S. farm products, having replaced the United Kingdom, says USDA. Exports of agricultural products to Japan increased to $553 million in fiscal 1960-61 from $441 million a year earlier, while exports to the United Kingdom fell to $466 million from $474 million in the same period.

CANADA. Demand for protein feeds is expected to remain strong in Canada through the year, but the country may be a net importer of this commodity this year instead of the usual net exporter, according to FAS.

Production in the first 5 months of 1961 was 175,000 short tons, the same as in the same period of 1960. Imports were 38,000 tons compared to 36,000 tons exports. Soybean meal output fell 10,000 tons but the decline was offset by increases in linseed, rapeseed, sunflower seed and safflower seed meal production.

The establishment of new vegetable oil extraction plants in the western provinces of Canada reflects greater emphasis on crop diversification and livestock expansion.

A Canadian oilseeds trade mission went to Europe in September to determine the current and long-term market possibilities for oilseeds produced in Canada.

The production of oilseeds as alternatives to wheat has been encouraged in Western Canada, and annual output increased from 382,000 tons in 1952 to 1,257,000 tons in 1960. Exports of oilseeds in 1960, including rapeseed, flaxseed, soybeans, and mustard seed, had a value of $69 million.

TALLOW, GREASE, LARD. U. S. exports of inedible tallow and greases from January through June were 5% below the same period of 1960, 858,532,000 pounds for January-June 1961 compared with 904,445,000 pounds for the same period a year ago, according to FAS.

Major declines in exports to the large markets of Western Europe were partially offset by purchases of 131 million pounds by the U.S.S.R. Italy continues to be the largest U. S. market in Western Europe.

Exports to Japan, largest U. S. market in 1960, were 224 million pounds during January-June, compared with 189 million in the first 6 months of 1960. Much of the increase is due to market development activities by USDA.

U. S. lard exports from January through June were 213 million pounds—130 million below the same period of 1960, FAS reports.

EXPORT ORDERS. U. S. Department of Agriculture announced the following purchase authorizations and agreements for U. S. soybeans and soybean products under Public Law 480 during September:

Sept. 5, p. a. 16-91 to Israel to finance purchase of up to $3,555,000 worth (about 13,000 metric tons) of soybean oil or cottonseed oil, subject to P. L. 480 agreement announced May 11, 1961. Sales contracts between Sept. 12 and Dec. 30, 1961, shipments between Sept. 12, 1961, and Feb. 28, 1962.

Sept. 5, p. a. 15-84 to Pakistan to finance purchase of up to $3,150,000 worth (about 9,800 metric tons) of cottonseed or soybean oil, subject to P. L. 480 agreement announced Aug. 14, 1961. Sales contracts between Sept. 12 and Nov. 30, 1961, shipments between Sept. 12 and Dec. 30, 1961.

PURCHASES. USDA announced the following purchases during September:

Sept. 7, purchase of 5,364,000 pounds of lard for distribution to schools, institutions, and needy families, the first lard purchase in a program announced Aug. 28 as part of President Kennedy's plan to improve and supplement diets of persons receiving donated food commodities.

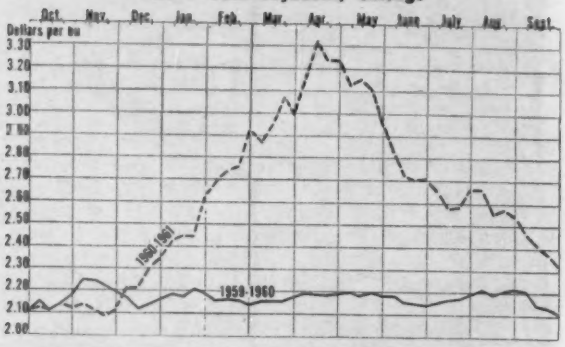
Sept. 8, by Commodity Credit Corp. for delivery during the October-December period, approximately 39.5 million pounds of vegetable oil shortening and 16.7 million pounds of cottonseed salad oil as part of a Food for Peace purchase program announced by Secretary Freeman last February which made up to 100 million pounds of refined vegetable oils available during 1961 to U. S. nonprofit welfare agencies for assistance of needy persons overseas.

FOOD FOR PEACE PROGRAM. Announcements made during September, by USDA:

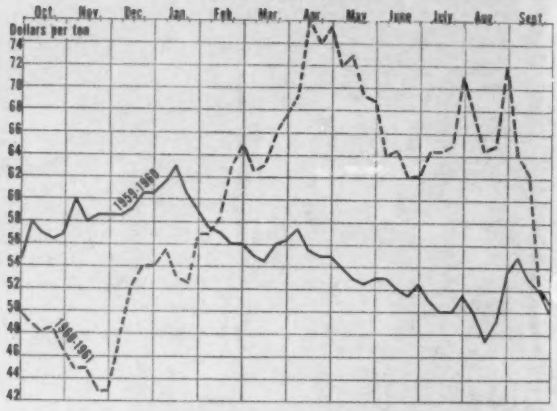
Sept. 20, Secretary of Agriculture Orville L. Freeman announced that USDA will provide volunteer agencies with 400 million pounds of vegetable oil—primarily soybean oil—during 1962 for their feeding programs among needy people in other nations, under Title III of P. L. 480.

Sept. 26, USDA announced Commodity Credit Corp. will call for deliveries of the initial 200 million pounds of vegetable oil under the above program between Nov. 15 and Mar. 31. Contracting for the purchase of the remaining 200 million pounds will be completed before June 30, 1962.

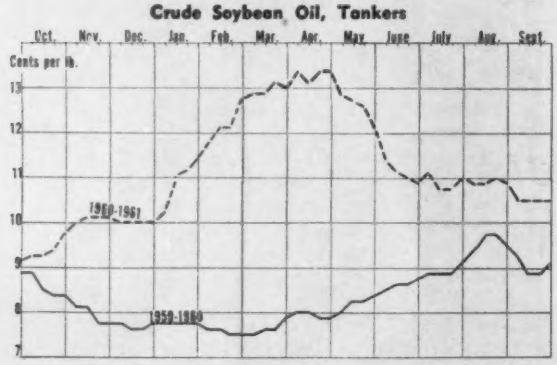
TRENDS AT A GLANCE (Weekly Close)
No. 1 Cash Soybeans, Chicago



Bulk Soybean Meal, Decatur



Crude Soybean Oil, Tankers



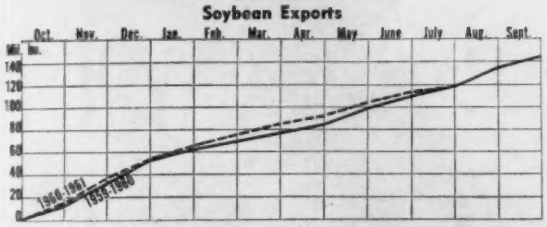
CASH PRICES, SEPTEMBER 1961*

Sept.	No. 1 yellow soybeans Chicago	Bulk soybean meal Decatur	Soybean oil Decatur	Cottonseed oil Mississippi Valley	Coconut oil Pacific Coast	Lard Chicago
1	$2.55	$67.00	$.10⅝	$.13¾	$.11½	$.0885
5	2.51	65.00	.10½	.14	.11½	.0885
6	2.50	63.50	.10½	.13¾	.11½	.0887
7	2.46½	64.00	.10⅜	.13¾	.11⅜	.0890
8	2.47½	64.00	.10½	.13½	.11⅜	.0892
11	2.48¼	64.00	.10½	.13½	.11⅜	.0892
12	2.45¼	64.00	.10⅜	.13½	.11⅜	.0890
13	2.50	65.00	.10⅝	.13½	.11¼	.0900
14	2.44¾	65.00	.10½	.13⅝	.11¼	.0887
15	2.41¾	62.50	.10½	.13⅝	.11¼	.0867
18	2.40¼	58.00	.10⅜	.13⅝	.11¼	.0855
19	2.40¼	55.00	.10⅜	.13½	.11¼	.0850
20	2.37	53.00	.10⅜	.13⅜	.11¼	.0820
21	2.36¾	52.50	.10½	.13¼	.11	.0805
22	2.38	52.50	.10½	.12⅞	.11	.0817
25	2.39½	55.00	.10½	.12¾	.11	.0805
26	2.36½	53.00	.10⅜	.12⅜	.11	.0792
27	2.35	52.50	.10½	.12¼	.11	.0790
28	2.34	51.00	.10½	.12⅛	.10⅞	.0797
29	2.32½	51.00	.10½	.12¼	.10⅞	.0795

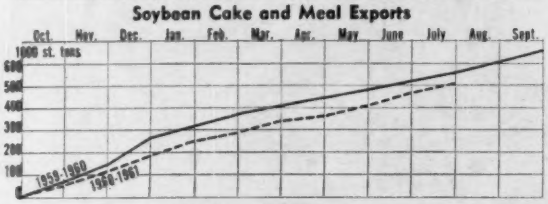
* From Wall Street Journal, Chicago.

Exports 1959-60 AND 1960-61
Cumulative year beginning Oct. 1

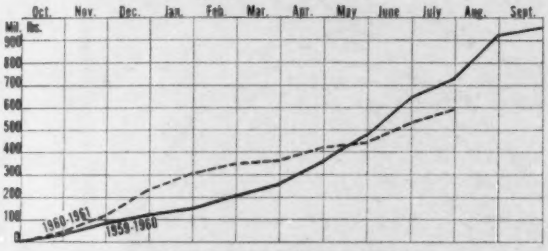
Soybean Exports



Soybean Cake and Meal Exports



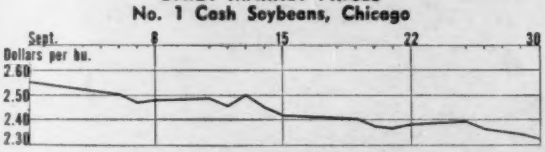
Soybean Oil Exports



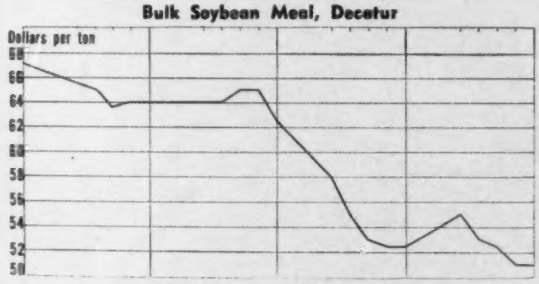
1959 AND 1960 SOYBEAN CROPS

	1960-61	1959-60
Soybeans crushed Oct. 1-Aug. 31.....	378,593,000 bu.	366,543,000 bu.
Exported Oct.1-Aug. 31	127,548,000 bu.	133,217,000 bu.
Balance on Sept. 1 for processing, export or carryover	39,839,000 bu.	57,756,000 bu.
Total soybeans inspected for overseas shipment including lake shipments to Canada Oct. 1- Sept. 22	129,335,000 bu.	137,216,000 bu.

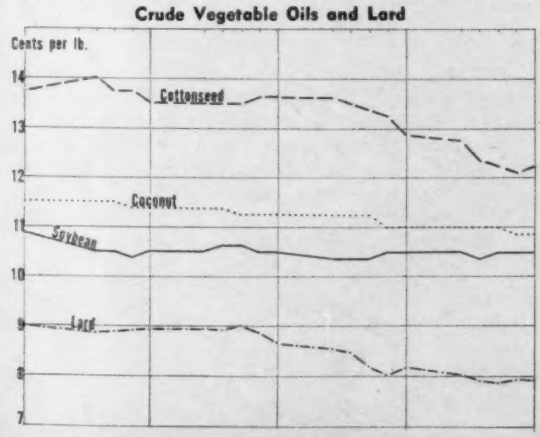
DAILY MARKET PRICES
No. 1 Cash Soybeans, Chicago



Bulk Soybean Meal, Decatur



Crude Vegetable Oils and Lard



The High Purity* Extraction Solvent of Dependable Quality

Low benzene and sulfur contents (typically less than 0.1% and 10 parts/million respectively) . . . and a minimum normal hexane content of 85%. These exclusive properties make Phillips High Purity Normal Hexane the purest solvent available for oil seed processing. Moreover, it's competitively priced . . . and provides these outstanding benefits.

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  - —Narrow boiling range
  - —Improved recovery from oil and meal
- **Lower Specific Gravity.**
  - —Less heat needed to vaporize
  - —Less cooling for condensation
- **Uniform Quality.**
  - —Minimum variation in product composition
  - —Improved over-all plant operations

Dependable traffic control and many convenient storage and shipping points assure you on-time delivery. Complete information and samples on request.

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Other solvents available from Phillips: Isopentane • Normal Pentane • Isohexanes Isoheptanes • Normal Heptane • Isooctanes • AOCS and USP Petroleum Ethers

Dodgens Consolidate Five Firms into One

C. W. Dodgen

Joe Dodgen

Five firms controlled by four members of the Dodgen family have been consolidated into one corporation, **Dodgen Industries, Inc.,** Joe W. Dodgen, president of the new corporation, announced.

The five business entities involved in the merger are: Dodgen & Co., Inc.; Dodgen Investment Co.; Dodgen Associated Manufacturers; Dodgen-Arkansas Co.; and Silbaugh Mfg. Co. The first three firms are located at Fort Dodge, Iowa; the fourth at Fort Smith, Ark.; and the last at Humboldt, Iowa.

The new firm will be located in Humboldt where a new factory and office building are under construction for early fall occupancy.

Dodgen Industries will operate with two marketing divisions. The farm equipment division will distribute the agricultural equipment formerly distributed by Dodgen & Co. The industrial feed transportation and processing division will manufacture and market the products previously handled by Silbaugh Mfg. Co., Inc.

Officers of the new corporation are: C. W. Dodgen, chairman of the board; Joe W. Dodgen, president; John N. Dodgen, executive vice-president and general manager; Jack E. Dodgen, treasurer; and John E. Miller, secretary and corporate attorney.

Corn States Reenters Temperature Scanning

After 5 years of advanced research, Herb Dalglish, electronics division head, announces the re-entry of **Corn States Hybrid Service, Inc.,** into the temperature scanning field. The new system will be called "Private Eye."

Herb Dalglish

John Spence, in making the joint announcement, said: "Corn States was a part of the introduction of modern electronic temperature measuring systems. We recognized three important needs that storage required and the research of the last 5 years has shown us that all of these can be added to serve storage requirements.

"We have felt that the measuring of temperature alone was not sufficient, and will soon offer the additional service of measuring volume and humidity to the 'Private Eye' system."

Mr. Dalglish also announced the appointment of Vince Blum as head of installation and servicing of the Private Eye systems. He has a background of 30 years in the land and marine grain terminal business.

Des Moines Bag Firm Announces Name Change

The name, Interstate Bag Co., Des Moines, Iowa, has been changed to **Great Plains Bag Co.**

Marvin Pomeranz, president of Great Plains, announced the change as a result of research of the registered names on file in the state of New York, which found that a subsidiary of Albemarle Paper Co. is using the name, "Interstate Bag Co." Mr. Pomeranz said only the name has been changed.

Great Plains Bag Co. will manufacture a complete line of quality multiwall paper and textile bags, as well as other packaging for industry.

The firm has been doing business out of temporary headquarters in Bankers Trust Bldg., Des Moines, Iowa. New manufacturing facilities and offices at 2201 Bell Ave. in Des Moines were completed early in September.

Hansen Named Davidson-Kennedy Sales Manager

Davidson-Kennedy Co., Atlanta, has named Homer Hansen as sales manager.

Mr. Hansen came to Davidson-Kennedy Co. from the Cotton Producers Association where he was an engineer and supervised construction of oil mill and fertilizer plants. He is a graduate of Purdue University with a degree in mechanical engineering.

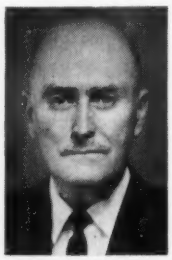
Homer Hansen

In his new capacity, Mr. Hansen will direct sales to the vegetable oil mill and fertilizer industries as well as expanding Davidson-Kennedy's sales to other industries requiring medium and heavy machinery design and manufacturing.

Hogan Becomes Simon-Carter Export Manager

M. L. Olson, general sales manager of the **Simon-Carter Co.,** announces the appointment of T. T. Hogan as export manager for its extensive business activities abroad. He will direct export activities from the Minneapolis office.

During the past 2 years Mr. Hogan has been representative for Simon-Carter in Mexico, working closely with both government agencies and private business. His business experience in the international field includes work in the grain and milling machinery industry in the United States, Argentina and Brazil.



T. T. Hogan

Mr. Hogan is a graduate of the milling school of Kansas State College.

Hjortland ADM Regional Oil Sales Manager

Promotion of Jay C. Hjortland, Minneapolis, to regional manager of commodity oil sales for **Archer-Daniels-Midland Co.** in Cleveland, Ohio, has been announced. He will supervise sales of linseed oil and edible and industrial soybean oils in the central region, and will transfer from Minneapolis to Cleveland immediately.

Jay C. Hjortland

Mr. Hjortland has been sales manager of ADM's Pol-mer-ik Linseed Oil since 1956. He joined the company in 1949. T. G. Garfield, Jr., will replace Mr. Hjortland at Minneapolis.

Bratney Enters D. W. Tyler Co. Partnership

Kenneth Bratney is entering into partnership with Duane Tyler of **D. W. Tyler Co.,** Danville, Ill., which offers specialized services to grain, soybean and seed processors, including installing and servicing the complete line of Clipper cleaners, driers, conveyors and processing machinery.

Kenneth Bratney

Mr. Bratney, a graduate of the University of Iowa with a degree in civil engineering, has been working directly with A. T. Ferrell products for the past 12 years throughout the Pacific Northwest area. He and his family will reside at Danville.

Personnel Changes by Ralston Purina Co.

Donald Danforth, chairman of the board of **Ralston Purina Co.,** has announced the following personnel changes:

Harold L. Wilcke was elected vice president in charge of research and a member of the management committee to replace Roland M. Bethke who has retired. Dr. Wilcke joined Ralston Purina in 1946 and has been assistant director of research since 1949.

Eldred A. Cayce has been elevated to executive vice president in charge of purchasing.

R. H. Dean was elected executive vice president with general supervision of the international division and also the Ralston division. He continues as president of the international division.

Firm Purchases Quincy Soybean Products Co.

Quincy Soybean Co. has purchased the land, plant, machinery, equipment, storage, shipping and all production facilities of the Quincy Soybean Products Co., Quincy, Ill. Possession was given Sept. 1.

The new company will engage in processing soybeans, mostly from western Illinois and northeastern Missouri.

Cook & Co., Memphis, Tenn., worldwide cotton firm, is going into the grain business. Cook Grains, Inc., a wholly owned subsidiary, has leased a 400,000-bushel grain elevator in West Memphis and smaller storage facilities in Memphis. Edward W. Cook, president of Cook & Co., is president of Cook Grains.

Benjamin S. Jaffray, manager since 1959 of **Cargill, Inc.'s** southeast region at Norfolk, Va., has been named an assistant vice president of Cargill's grain division. He joined Cargill as a trainee in 1953. Arthur H. Klobe was appointed assistant vice president of Cargill's vegetable oil division at Minneapolis. He joined Cargill in 1946, has been sales and promotion director for technical oils and resins.

The **Buhler Corp.** is now occupying its new headquarters at 8925 Wayzata Blvd., Minneapolis, Minn. The milling division and executive offices had been located at 4207 Nicollet Ave., while the materials handling and macaroni divisions temporarily occupied offices at 2401 Edgewood Ave., St. Louis Park. Manufacturing will continue at the St. Louis Park plant.

George K. Dahlin, senior partner in **Roesling, Monroe & Co.,** Board of Trade Building, Chicago, announces that George K. Dahlin, Jr., has joined the firm to engage in trading in crude soybean oil, corn oil, and other vegetable oils handled by the firm.

A new grain merchandising firm, **Southern Terminal Elevator Co.,** headed by Hal Davis, has opened at 2266 Wharf St., on Presidents Island, Memphis, Tenn. The company has grain storage facilities of 750,000 bushels at Memphis.

George F. Taseff has has been appointed by **Imperial Belting Co.** as sales engineer for the midwestern area. He will serve southeastern Iowa, central Illinois and northeastern Indiana from Imperial's Chicago factory and office. He replaces Fred Adams, whose untimely death occurred May 16.

W. L. Richeson & Sons, Inc., announces the removal of their office to Suite 405, Sanlin Bldg., 442 Canal St., New Orleans 16, La.

From 1961 soybean crop:

60 Million Carryover?

By GEORGE PETER

Washington correspondent for the Soybean Digest

SUPPLY AND distribution for the new soybean year are about the most important in looking ahead just now, as they always are at this time of the year. So here is what you have to start out with, regardless of bearish or bullish arguments.

Supply. Give or take a few bushels here and there, USDA's official estimates of bean production still stand at around 720 million bushels. Add to this roughly another 5-million-bushel carryover, plus or minus, and total supply is about 725 million bushels.

The whopping difference between last year's 558 million bushels and this year's 720 million bushels is what is chiefly behind bearish talk so far this season.

Another important factor creating bearishness—and it has taken a few months for us to get used to this—is the tendency to underestimate Secretary of Agriculture Freeman's ability to get things done.

It appeared frequently that USDA had too rosy a picture of the year ahead and would have to change on some things. USDA did just the opposite—kept its rosy picture but changed events so that they would fit into the picture. We expect some more of this. The recent programming of an additional 400 million pounds of oil for foreign donation is a case in point.

Crush. Because of heavy donations under Title III of the Food for Peace program (P. L. 480), USDA has upped its estimates of crushings to 450 million bushels. Indications are that if USDA can find outlets, foreign donations may increase.

Plans call for having the entire 400 million pounds of oil for volunteer agencies bought by June 30, 1962. Food for Peace officials plan most of the movement for Africa, the Far East, and South America. Small amounts may also go to Italy, Yugoslavia, Poland and Spain. Where increases are considered, Israel and India are strong possibilities.

Secretary Freeman suggests he could have programmed more foreign donations of oil than he has, but implies that as big as supplies are this year some concern must be observed for domestic supplies.

Dollar sales injured? Some industry men we have talked to still feel certain that heavy donations will cut into sales. Both the USDA and Food for Peace officials' answer to this is that the donations are going into areas or hands that could not buy the oils anyway.

Bean oil exports. Assuming the whole 400 million pounds for donations move, oil exports for 1961-62 would zoom to about 2 billion pounds. This would compare to 1.2 billion pounds for the past year. USDA also notes that if the 400 million pounds is bought by June 30, the whole program could start all over again next summer about that time.

Price effects? The effect on the market will depend on buying schedules more than any other factor, how much is bought at one time and how far apart purchases are throughout the remainder of the fiscal 1962 period.

Exports as beans. USDA still estimates 175 million bushels for export. The increases are expected to go chiefly to Japan and Western Europe. But Canada is also a possibility for more beans.

USDA is more concerned over the market effects of bigger exports of beans on oil dollar sales than it is over the effect of donation oil on oil export prospects, we learn. If this should turn out to be a problem, USDA will have to more carefully apportion its efforts.

Food and seed estimates. USDA figures about 40 million bushels for this purpose, give or take, by the end of the season.

Carryover—the most controversial: Based on the foregoing estimates of utilization on distribution, carryover should be around 60 million bushels. And USDA regards this as maximum. This compares to the record 62 million bushels on hand Oct. 1, 1959. One month's requirement for crush and export would about use up the 60-million-bushel carryover.

Industry views differ strongly over USDA's estimate of carryover, however, even after consideration of the big oil donation program. Some sources estimate carryover as high as 100 million bushels. So, on this score, we'll just have to wait and see.

Prices in general. From farm to markets USDA intends to use all the machinery at its command—and that's a lot of wheels—to stabilize prices at every level.

5% Seed Germination After 18 Years' Storage

SEEDSMEN, plant breeders, and others are often concerned with the problem of seed viability as affected by storage conditions (temperature and humidity) over a period of time. Data relative to this topic are sparse. The following results obtained by Calvin R. Mumaw and Floyd I. Collins of the U. S. Regional Soybean Laboratory, Urbana, Ill., though lacking experimental design, may add a fragment of information on this general topic. The soybean seed they tested had been stored for 18 years under air-tight conditions.

In April 1939, 2 weeks before his country was invaded by the German Army, Dr. L. Koch, a Netherlands plant breeder, sent a container of seed to the Laboratory in Urbana.

In this way, he had hoped to secure safe storage for part of his promising breeding material. Apparently Dr. Koch was able to continue his breeding work during the war years since he did not request the return of this material.

The lid had been soldered to the container to provide air-tight storage. The container was stored in several places of refrigeration near 32° Fahrenheit. This container, opened in January 1958, contained 18 envelopes of soybean seed and one envelope of corn seed.

The seed was treated with a fungicide and planted in a sand bench germinator. Germination percentages of 26, 15, 13, 13, 12, 4, 3, 3, 1, 1, and 1 were obtained for 11 soybean samples, while the remaining samples were inviable. A total of 1,070 seeds planted gave an average germination of 5%. The one sample of corn (flint type) germinated 84%.

Maryland Experiment with Low and High Fat Feeds

NO DIFFERENCES have been obtained in feeding low-fat pelleted and high-fat mash broiler feeds in Maryland experiments. Nor were differences obtained when broilers were changed from one type of feed to the other at 5 weeks of age.

Further studies with ground, unextracted, full-fat soybeans as a replacement for all of the soybean meal and all or part of the added fat in broiler feeds, steam heating of ground soybeans under atmospheric pressure for 30, 60, and 90 minutes or at 15 pounds pressure for 5, 7½ or 10 minutes, failed to give quite as good performance as was obtained with feeds containing regular soybean meal.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, JULY 2, 1946 AND JUNE 11, 1960 (74 STAT. 208) SHOWING THE OWNERSHIP, MANAGEMENT AND CIRCULATION OF

The Soybean Digest published monthly at Hudson, Iowa, for October 1, 1961.

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher: American Soybean Association, Hudson, Iowa.

Editor: Geo. M. Strayer, Hudson, Iowa.

Managing Editor: Kent Pellett, Hudson, Iowa.

Business manager: Geo. McCulley, Hudson, Iowa.

2. The owner is: The American Soybean Association, Hudson, Iowa, an educational organization operating under the Iowa law as a corporation not for profit, of which no individual or member owns or holds more than 1% of the stock.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustee, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: 6445.

GEO. M. STRAYER,
Editor

Sworn to and subscribed before me this 18th day of September, 1961.

[SEAL] GEO. McCULLEY,
Notary Public

(My commission expires July 4, 1963.)

IN THE MARKETS

EXPORTS. Preliminary data on U. S. exports of soybeans, soybean and cottonseed oils, and soybean and cottonseed cakes and meals, for July 1961, with comparable data for July 1960 and cumulative totals for October-July in the marketing years 1959-60 and 1960-61, from USDA's Foreign Agricultural Service.

	Unit	July 1960[1]	July 1961	October-July[1] 1959-60	October-July[1] 1960-61
Soybeans	bu.	9,209,545	7,653,345	119,202,102	119,401,395
Soybean oil:					
Crude	lb.	43,930,209	38,815,903	482,973,365	354,026,659
Refined but not further processed	lb.	13,613,512	1,766,112	84,654,526	61,546,392
Refined, deodorized and hydrogenated	lb.	23,038,257	21,923,064	159,132,126	175,947,362
Cottonseed oil:					
Crude	lb.	14,078,415	3,173,998	280,624,556	179,875,704
Crude	lb.	14,078,415	3,173,998	280,624,556	179,875,704
Refined but not further processed	lb.	5,880,289	5,388,578	140,057,061	107,353,521
Refined, deodorized and hydrogenated	lb.	7,876,873	3,181,987	33,929,402	37,991,401
Cottonseed cake and meal	s.t.	768	4,658	125,107	42,137
Soybean cake and meal	s.t.	31,903	45,890	556,103	516,493

[1] Includes any revisions made by the Bureau of the Census.

Cottonseed, linseed, soybean cake and meal: U. S. exports by country of destination, October-July 1960-61 and 1959-60 (tons)

	Cottonseed cake and meal		Linseed cake and meal		Soybean cake and meal	
	Oct.1960-July 1961	Oct.1959-July 1960	Oct.1960-July 1961	Oct.1959-July 1960	Oct.1960-July 1961	Oct.1959-July 1960
Canada	1,629	316	429	1,012	143,051	167,444
Mexico	—	2,065	—	—	13,907	14,335
Cuba	100	380	—	—	5,300	14,572
Venezuela	4,393	—	—	—	5,660	6,685
Poland	—	—	—	—	—	17,083
Norway	—	—	—	—	9,879	9,150
Denmark	14,951	45,759	—	—	30,789	9,951
United Kingdom	13,305	29,193	—	—	202	1,337
Ireland	4,491	11,170	—	—	—	1,653
Netherlands	770	15,847	22,405	40,725	64,492	71,158
Belgium and Luxembourg	—	8,881	336	200	47,960	58,806
France	—	1,787	533	—	18,371	9,716
W. Germany	2,108	8,403	3,433	8,524	43,137	58,828
Spain	—	—	—	—	28,325	44,435
Italy	—	12	—	1,207	8,066	42,698
Philippines	—	—	—	—	15,147	11,528
Japan	97	—	—	—	62,515	495
Australia	—	—	—	—	5,644	160
Other	293	1,294	317	896	15,248	16,069
Total	42,137	125,107	27,453	52,564	517,693	556,103

Bureau of the Census.

Soybeans: Inspections for export by coastal areas and country of destination, August 1961 (1,000 bu.)

Lake Ports		Gulf	
Canada	1,229	Norway	95
Norway	162	Netherlands	1,050
United Kingdom	59	Belgium	188
Netherlands	162	West Germany	75
West Germany	403	Italy	356
Other	74	Korea	90
Subtotal	2,089	Taiwan (Formosa)	363
Atlantic		Japan	2,302
United Kingdom	149	Other	65
Netherlands	75	Subtotal	4,584
Taiwan (Formosa)	375	Grand total	7,352
Other	80	Total Jan.-Aug. 1961	71,156
Subtotal	679	Total Jan.-Aug. 1960	80,696

Based on weekly reports of inspections for export by licensed inspectors and does not include rail or truck movement to Canada or Mexico. In some cases, the ultimate destination of the soybeans exported is not shown on the inspection reports. Therefore, the quantity for each country may vary from official Census data which are based on custom declarations.

Soybeans: Inspections for export by ports and areas, August 1961 (1,000 bu.)

Lake Ports		Gulf	
Duluth	138	Mobile	318
Superior	150	New Orleans	2,902
Chicago	1,609	Port Allen	1,364
Toledo	192	Subtotal	4,584
Subtotal	2,089		
Atlantic		**Totals**	
Philadelphia	37	August 1961	7,352
Baltimore	227	Jan.-Aug. 1961	71,156
Norfolk	415	Jan.-Aug. 1960	80,696
Subtotal	679		

Based on weekly reports of inspections for export by licensed inspectors and does not include rail and truck movement to Canada or Mexico.

Oilseed meals: Production, stocks, foreign trade, and domestic disappearance, July 1960 and 1961 (1,000 tons)

	Stocks July 1[1]	Production	Imports[2]	Exports	Domestic disappearance	Stocks July 31[1]
			July 1961			
Soybean	204.0	732.1	0	45.9	679.5	210.7
Cottonseed	196.9	66.6	5.0	4.7	121.2	142.6
Linseed	24.8	24.4	—	1.2	27.0	21.0
Copra	0.5	12.7	3.0	—	16.2	—
Peanut	3.0	6.8	—	—	6.5	3.3
Total	429.2	842.6	8.0	51.8	850.4	377.6
			July 1960			
Soybean	116.2	733.4	0	31.9	687.3	130.4
Cottonseed	202.8	70.0	0.3	0.8	82.4	189.9
Linseed	45.8	14.9	0	2.6	18.7	39.4
Copra	—	12.3	0.6	—	6.0	6.9
Peanut	5.7	5.4	—	—	6.3	4.8
Total	370.5	836.0	0.9	35.3	800.7	371.4

Note: Dash indicates data are not available. [1] Stocks at processing plants only. [2] Partly estimated.

Soybeans: Barge inspected receipts and shipments by midwest river markets, July 1961 and 1960[1] (1,000 bu.)

	1961	1960		1961	1960
Receipts			Alton	79	82
Chicago	127	539	St. Louis	284	297
New Orleans	3,338	3,527	Omaha	—	167
Port Allen	360	317	Henderson	—	45
Total—July	3,825	4,756	Kankakee	174	344
Total—May-July	11,346	18,460	Danvenport	—	40
Shipments			Kansas City	306	100
La Crosse	243	43	Stoneville	—	82
Minneapolis	618	842	Memphis	163	46
Peoria	75	45	Total—July	1,982	2,133
Cairo	40	—	Total—May-July	9,322	13,467

[1] Includes a small quantity not inspected.

PRICES. Average price for soybeans received by farmers, effective parity, and support rates, reported by Agricultural Marketing Service (dollars per bushel).

Average farm price			Effective parity	Av. price as percent of parity	National average price support rate		
Aug. 15, 1961	July 15, 1961	Aug. 15, 1960	Aug. 15, 1961	Aug. 15, 1961	1961 crop	1960 crop	1959 crop
2.49	2.48	1.99	2.89	86	2.30	1.85	1.85

Average farm and parity prices from crop reporting board.

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- Low cost operation
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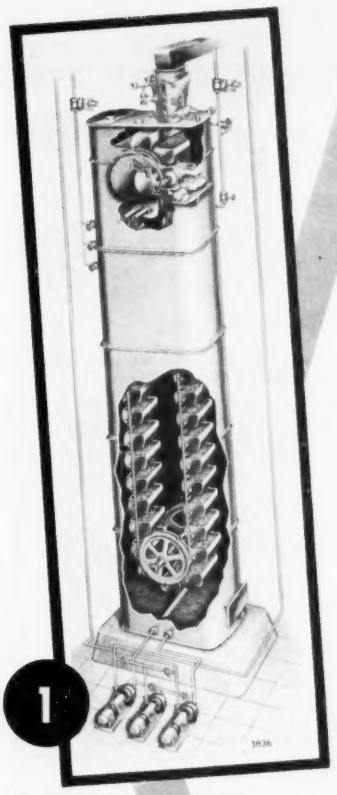

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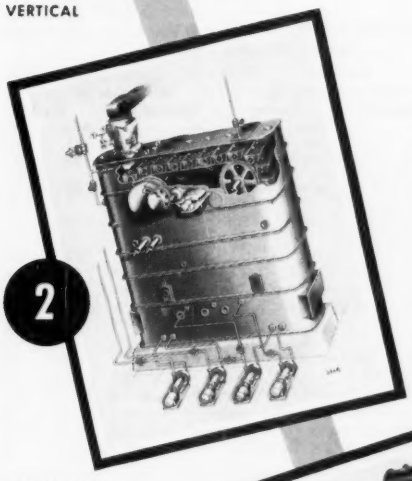
VERTICAL



2

RECTANGULAR

3

HORIZONTAL

4

STATIONARY BASKET

THE FRENCH OIL MILL MACHINERY CO.
PIQUA, OHIO—U. S. A.

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FO37

Soybean prices compared with market value of soybean oil and meal

	Soybean oil		Soybean meal		Value of oil and meal from bushel of soybeans[1]	Market price No. 1 yellow soybeans Ill. pts.	Spread between soybean price and value of oil and meal
	Average price at crushing plant	Value from bu. of soybeans[1]	Bulk price at Decatur	Value from bu. of soybeans[1]			
	Cts. per pound	Dollars	Dollars per ton	Dollars	Dollars	Dollars per bu.	Cents
August 1961	10.8	1.19	68.90	1.62	2.81	2.63	18
July 1961	10.9	1.20	65.00	1.53	2.73	2.59	14
June 1961	11.4	1.25	63.85	1.50	2.75	2.73	2
May 1961	12.6	1.39	71.00	1.67	3.06	3.07	—1
April 1961	13.4	1.47	73.10	1.72	3.19	3.14	5
August 1960	9.4	1.03	50.30	1.18	2.21	2.13	8

[1] Based on assumption that a bushel of soybeans yields 11 pounds of oil and 47 pounds of meal. This table is for statistical comparison only. It does not reflect actual operating margins since prices are simple averages and do not take into account location differentials or actual purchases and sales of soybeans, soybean oil or soybean meal.

FACTORY USE VEGETABLE OILS for June and July 1961. Reported by Bureau of the Census.

Selected edible oils: Production, consumption, and factory and warehouse stocks July 1961 and June 1961 (million lbs.)

	Cottonseed oil		Soybean oil	
	July 1961	June 1961	July 1961	June 1961
Production:				
Crude oils	48.1	60.4	345.1	352.8
Refined oils (once refined)[1]	55.9	80.0	230.3	270.2
Consumption in refining[1]	59.5	86.5	240.3	281.9
Consumption in selected edible and inedible products, total[2]	86.5	102.5	237.8	266.5
Consumption in edible products, total	86.1	102.1	222.3	248.6
Baking or frying fats	16.3	27.0	57.7	80.5
Salad or cooking oil	61.8	64.4	88.1	83.3
Margarine	7.4	9.7	75.4	82.4
Other edible products[3]	0.6	1.0	1.1	2.4
Stocks, end of month, total[2]	249.8	313.1	766.6	*761.9
Crude oils	29.3	43.3	549.2	*521.3
Refined oils	220.5	269.8	217.4	240.6

* Revised. [1] Production of refined oils covers only once-refined oil. Degummed soybean oil is reported as crude oil. [2] Includes hydrogenated fats (vegetable) and other fats and oils "in process," (e.g. refined cottonseed includes stocks of stearin). [3] Includes confectioners fats.

SUPPLY, DISTRIBUTION of soybeans for the 1957-60 crop years, from Agricultural Marketing Service (1,000 bushels).

	1960-61	1959-60	1958-59	1957-58
Carryover, Oct. 1	23,209	62,117	21,083	9,897
Production	558,771	532,899	580,250	483,425
Total supply[1]	581,980	595,016	601,333	493,322
Farm use, including seed for season	36,000	37,500	28,000	32,500
Quantity remaining for processing, export, or carryover	545,980	557,516	573,333	460,822
Disappearance, Oct. 1 through August:				
Crushed for oil or processed[2]	378,593	366,543	373,765	328,739
Exported	[3]127,548	133,217	103,358	83,858
Total	506,141	499,760	477,123	412,597
Balance on Sept. 1 for processing, export, or carryover	39,839	57,756	96,210	48,225

[1] Imports not included because negligible. [2] No allowance is made for new-crop crushings prior to Oct. 1. [3] Estimated.

MELLORINE. U. S. production of mellorine and other frozen desserts made with fats and oils other than milkfat was estimated at 5,695,000 gallons in August. This was 11% more than in August 1960 and 36% greater than the 1955-59 average for the month. The January-August total was 10% greater than the first 8 months of 1960 and 35% above average.

Production of "mellorine-type" frozen desserts, United States 1961

	1955-59 average[1]	1959[1]	1960[1]	Estimated 1961	Change from: 1955-59 av.	Change from: 1960
	Thousand gallons				Percent	
January	2,012	2,254	2,536	2,850	+42	+12
February	2,188	2,444	2,912	3,100	+42	+ 6
March	2,805	3,338	3,452	4,140	+48	+20
April	3,076	3,601	3,824	4,055	+32	+ 6
May	3,723	4,146	4,343	4,985	+34	+15
June	4,026	4,825	5,329	5,390	+34	+ 1
July	4,324	5,007	4,911	5,285	+22	+ 8
August	4,176	4,709	5,109	5,695	+36	+11
8-month total	26,330	30,324	32,416	35,500	+35	+10

[1] From enumerations.

PROCESSING OPERATIONS. Reported by Bureau of the Census for July and August 1961.

Primary products except crude oil at crude oil mill locations: Production, shipments and transfers, and stock, August 1961-July 1961 (1,000 short tons)

	Production		Shipments and transfers		Stocks end of month	
	August 1961	July 1961	August 1961	July 1961	Aug. 31, 1961	July 31, 1961
Soybean:						
Cake and meal	688.4	716.8	718.9	710.5	171.1	201.6
Millfeed (hull meal)	15.4	15.3	15.8	14.9	8.7	9.1

Soybeans: Net receipts, crushings, and stocks at oil mills, by states, August 1961-July 1961 (1,000 short tons)

	Net receipts at mills[1]		Crushed or used		Stocks at mills	
	August 1961	July 1961	August 1961	July 1961	Aug. 31, 1961	July 31, 1961
U. S.	314.3	424.0	901.0	929.1	401.2	987.9
Arkansas	(2)	(2)	30.1	(2)	15.6	(2)
Illinois	121.0	145.9	256.3	284.7	77.3	212.7
Indiana	38.3	36.6	95.0	92.0	26.9	83.6
Iowa	64.9	91.1	140.8	153.1	73.7	149.5
Minnesota	28.5	47.0	73.2	63.9	30.2	74.9
Mississippi	(3)	0.1	4.2	11.0	0.2	4.4
Missouri	(2)	(2)	(2)	(2)	(2)	(2)
Nebraska	(2)	(2)	(2)	(2)	(2)	(2)
North Carolina	(2)	(3)	(2)	(2)	15.6	28.4
Ohio	19.9	44.1	82.5	77.0	49.4	112.0
Tennessee	13.0	22.7	84.8	76.7	42.2	114.0
All other	28.7	36.5	134.1	170.7	70.1	208.4

Note: Detail figures may not add to totals because of independent rounding. [1] Net receipts for each state are derived from the quantity of beans crushed and net change in stocks. [2] Included in "All other" to avoid disclosure of figures for individual companies. [3] Receipts exceeded reshipments out of previously acquired stocks.

Soybean products: Production and stocks at oil mill locations, by states, August 1961-July 1961

	Crude oil (millions of pounds)				Cake and meal (thousands of tons)[1]			
	Production		Stocks		Production		Stocks	
	August 1961	July 1961	Aug. 31, 1961	July 31, 1961	August 1961	July 1961	Aug. 31, 1961	July 31, 1961
U. S.	333.9	345.1	134.0	*134.0	703.8	732.1	179.8	210.7
Arkansas	11.0	(2)	5.3	(2)	22.9	(2)	3.2	(2)
Illinois	97.0	108.1	46.7	45.5	192.8	217.8	48.1	56.8
Indiana	36.2	33.8	(2)	(2)	78.9	74.0	(2)	(2)
Iowa	49.8	55.7	24.3	*25.5	111.7	123.1	29.3	37.9
Minnesota	26.2	22.9	7.3	9.1	56.5	50.0	3.8	4.7
Mississippi	2.7	5.7	(2)	(2)	5.1	11.3	2.1	3.8
Missouri	(2)	(2)	1.7	2.7	(2)	(2)	(2)	(2)
Nebraska	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
N. Carolina	(2)	(2)	0.7	(2)	(2)	(2)	0.9	(2)
Ohio	30.3	28.2	4.1	7.1	67.0	62.4	3.3	7.8
Tennessee	32.0	28.4	6.6	6.6	65.2	59.7	6.6	7.5
All other	48.7	62.3	37.3	37.5	103.7	133.8	82.5	92.2

* Revised. [1] Includes mill feed (hull meal). [2] Included in "All other" to avoid disclosure of figures for individual companies. Note: Detail figures may not add to totals because of independent rounding.

TERMINAL STOCKS of soybeans. Includes all soybeans in public elevators including government-owned stocks. By Agricultural Marketing Service (1,000 bushels).

	Aug. 29	Sept. 5	Sept. 12	Sept. 19
Baltimore	191	191	191	191
Chicago	2,242	897	895	807
Afloat	35	35	35	0
Duluth-Superior	128	127	67	67
Indianapolis	2	2	1	1
Kansas City	158	54	28	25
Minneapolis	1	1	1	0
New Orleans	673	678	612	596
Afloat	80	80	80	80
Philadelphia	62	62	62	28
Sioux City	517	378	279	207
St. Louis	166	158	160	63
Toledo	196	124	80	116
Visible supply	4,451	2,787	2,491	2,181
Grand totals				
This week	4,451	2,787	2,491	2,181
Year ago	9,357	8,235	7,874	7,105
Total Chicago soybean stocks	2,277	932	930	807

THE SOYBEAN DIGEST — INDEX TO VOLUME XXI

Subject Matter

Index of Contributors

Look inside a Carter Scalperator... discover why it's best for soybeans

Note how the unique scalping and aspirating features make a Carter Scalperator ideal for use on soybeans as they are received, particularly ahead of drying operations.

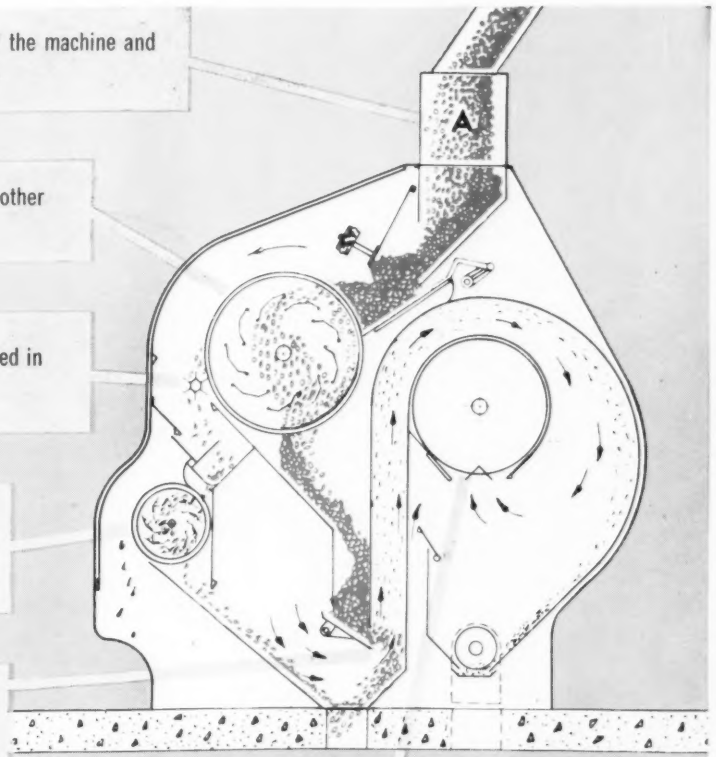
Soybeans enter the Scalperator at the top of the machine and feed at desired capacity to large scalping reel.

Main scalping reel scalps off sticks, stems, other roughage from beans.

String wiper removes string and straw entwined in the wire mesh of the scalping reel.

Roughage is carried over, and good beans salvaged at the smaller scalping reel.

Scalped beans flow down to aspirating area where a uniform current of air passes through them. The material removed by the aspiration is drawn up the aspirating leg.



Heavier offal is gathered at the bottom of the settling chamber. Dust and very light offal are drawn through the fan and exhausted to the dust collector.

Carter Scalperators have high capacity with low power requirements. They are non-clogging and easy to clean when bean varieties are changed, or other grains are to be cleaned.

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Emergency Delivery Service from Nearby Terminals	YES	
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Nationwide Distribution	YES	

* Make your own comparison. Fill in answers for any other Extraction Solvent Supplier.

When it comes to your extraction solvent supply, fast service is of utmost importance – because

(1) it avoids costly plant shutdowns, and

(2) enables you to cut costs by maintaining a minimum inventory.

Comparison of the top-quality solvent suppliers reveals that *only* AMSCO offers you this kind of service.

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